ENGINEERING NEWS-RECORD

SEVENTY-NINTH YEAR OF PUBLICATION

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Byers **WROUGHT IRON PIPE**
supports anti-corrosion "platform" in
NATION'S CAPITOL POWER PLANT

- CONDENSATE RETURN SYSTEMS
- HIGH PRESSURE TRAP DISCHARGE
- COAL HOPPER LININGS

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A typical example of this insistence on maximum durability is the use of wrought iron pipe for the condensate return systems and high pressure trap discharge system. Wrought iron plate linings were installed to protect the coal hoppers. The illustration shows wrought iron condensate and high pressure drip lines in the tunnel installation.

It is helpful, in applying wrought iron in the many places where it can reduce repairs and maintenance, to know something of how it is made, how it resists corrosion, and where it is serving. Our booklet, THE ABC's OF WROUGHT IRON, is a factual digest of this information. Send for a copy.

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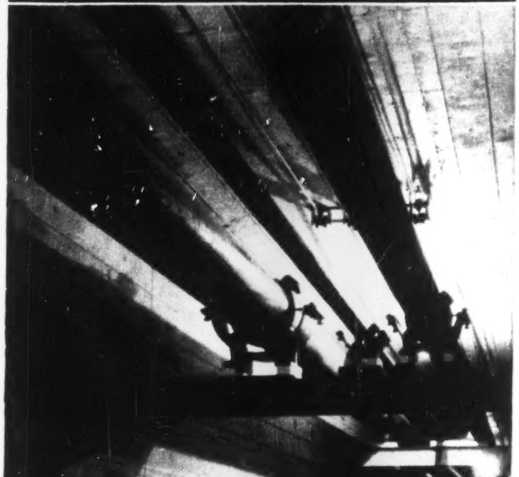

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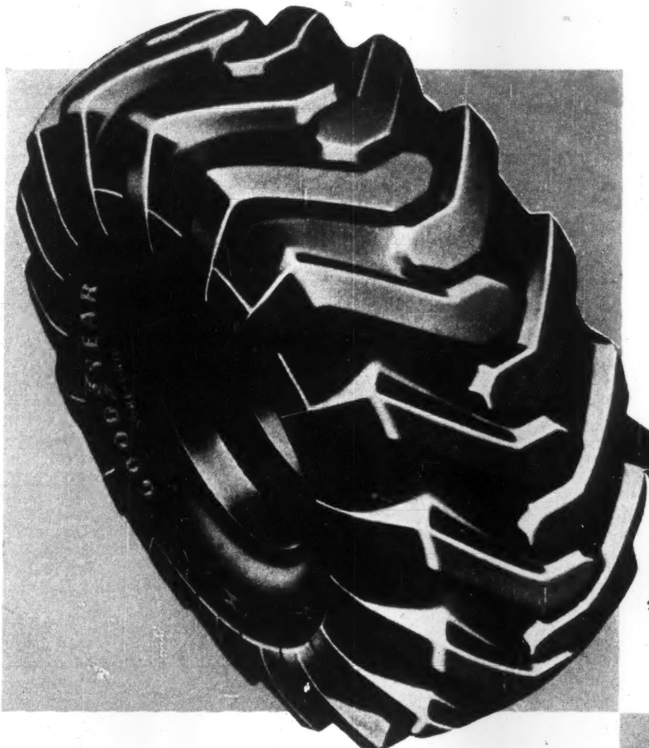

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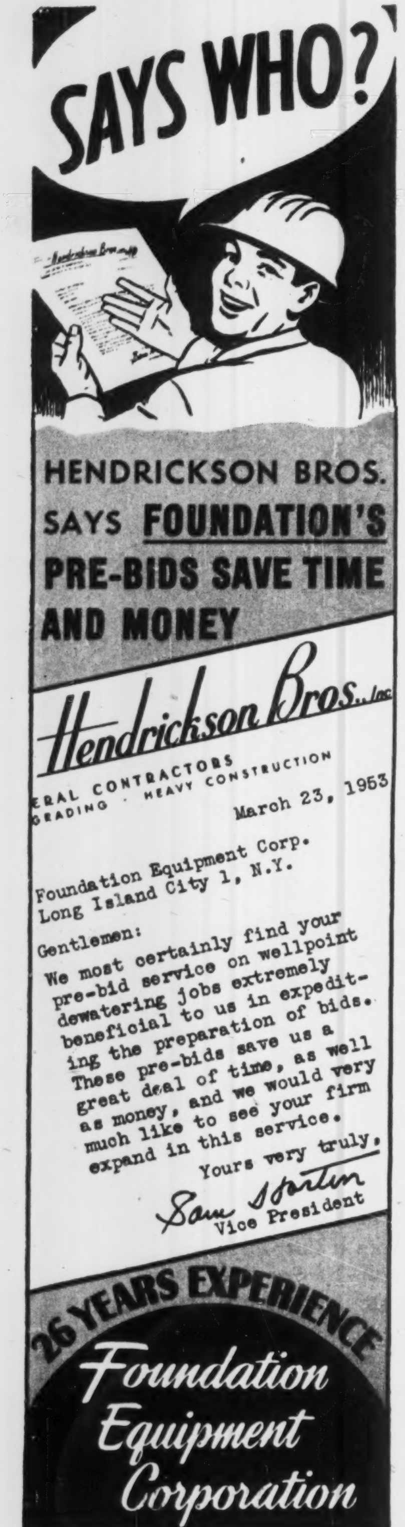
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Hendrickson Bros., Inc.
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Robert F. Boger
Publisher

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When you have equipment that you [illegible] dent will handle the unusual jobs, smoo[illegible] with ease and speed—you know you can [illegible] ordinary jobs without delay or trouble.

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It takes [illegible] "Feather[illegible] out the [illegible] pressure [illegible] gives you [illegible] crawler [illegible] straight [illegible] smooth [illegible] gives you [illegible] Uniform [illegible] many other [illegible] to do the ordinary or the [illegible] better and faster. A Nor[illegible] is its [illegible]

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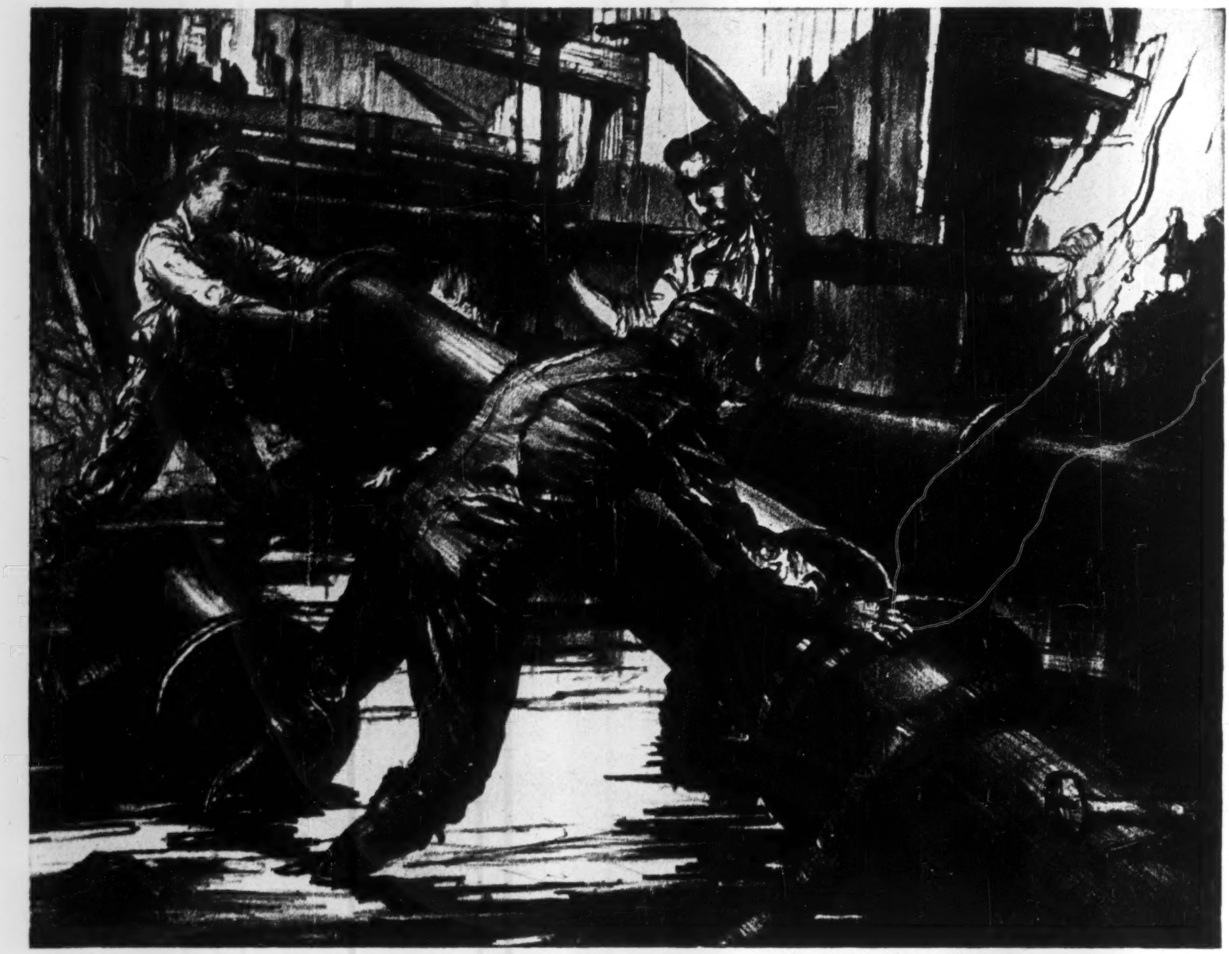

Lithographed on stone for U. S. Pipe and Foundry Co. by John A. Noble, A. N. A.

CAST IRON PIPE is a versatile pipe. It has age-old and outstanding service records in water, gas and sewerage fields.

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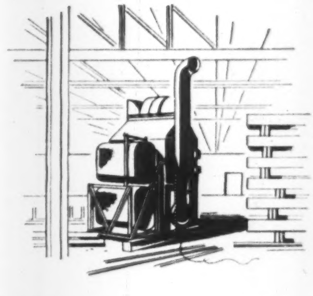
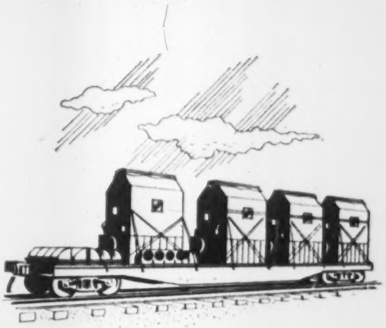
These 12 DRAVO *Counterflo* SPACE HEATERS really got around!

Here's where the Dravo Heater's rugged construction and durability paid off for Ford Motor Company.

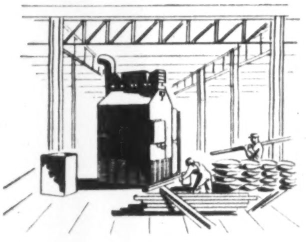
Back in the fall of 1950, Ford purchased 12 Dravo Heaters for temporary heating at Cleveland, Ohio, while Ford's new engine plant was under construction during the winter of 1950-1951.



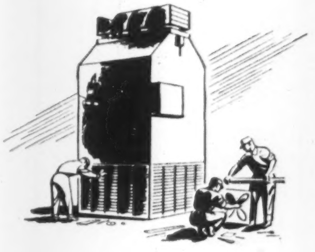
1 The heaters maintained comfortable working conditions and kept the ground from freezing during zero weather so that concrete could be poured.



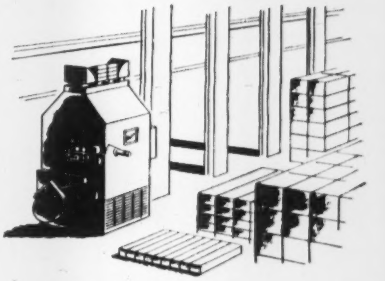
2 After this new plant was completed, four heaters were shipped to Canada and were permanently installed in Ford's warehouse at Winnipeg.



3 The other eight heaters were shipped to Kansas City, Mo., for use as temporary heaters during the construction of facilities similar to those in Cleveland.



4 When that job was finished, the eight heaters were returned to Dravo at Neville Island, Pittsburgh, for overhauling and reconditioning by highly-skilled Dravo personnel.



5 Now these eight Dravo *Counterflo* Heaters have been permanently installed for comfort heating at Ford's assembly plant at Buffalo, New York.

Only Dravo *Counterflo* Space Heaters could stand up under such extraordinary treatment and frequent moving. Drayo Heaters are a product of top-flight engineering and planning; their mill-type, heavy construction means long life, low maintenance and years of satisfactory service.

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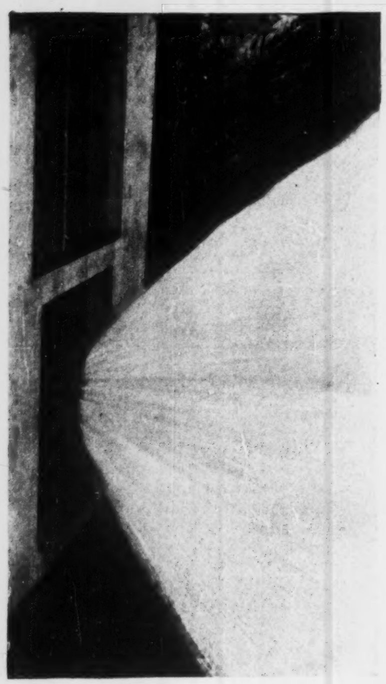

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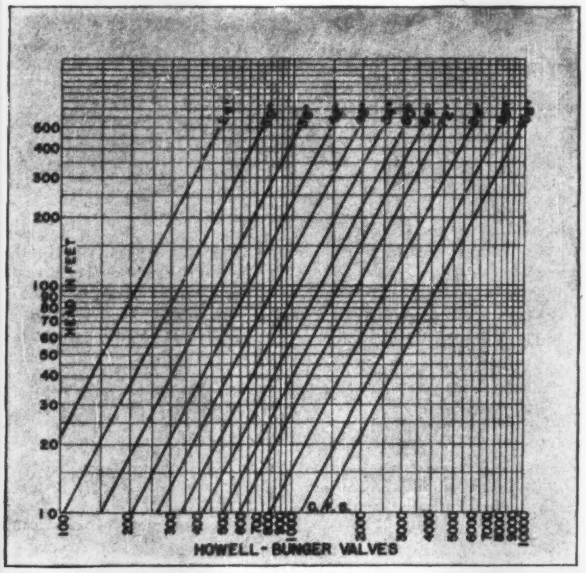

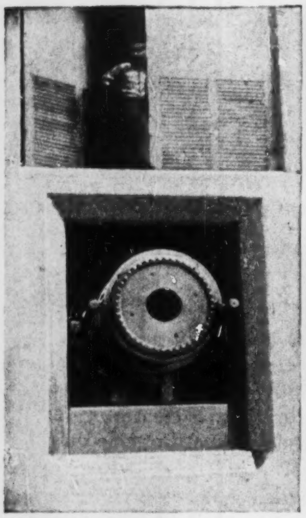

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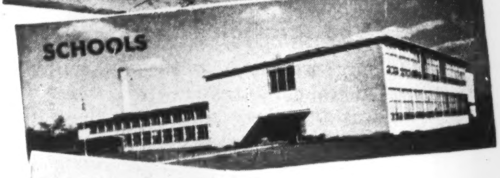

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Besser has developed new units, such as floor filler block, pilaster block, window sill block, bond beam block, control joint block and many other accessory units, which have done much to increase the use of concrete masonry construction.

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The construction of modern power plants is one of the achievements of building contractors from one end of the nation to the other. The Ætna Casualty and Surety Company has bonded many such projects, giving contractors everywhere prompt and efficient service — the kind of service that often speeds up operations all along the line. That is why so many contractors bond with *Ætna* — always.

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READER COMMENT

Engineer incentive system

SIR: While it would seem rather inappropriate for an ex-structural engineer of the rank and file to comment on the whys and wherefores of the persisting shortage of engineers, it may not be amiss to point out that our fast-expanding industrial empire could stand to benefit greatly by the use of F. W. Dencer's Merit System: a system he advocated while engineer in charge of the American Bridge Company's plant at Gary, Ind.

He was a disciplinarian of the first order, but he was one of the first great engineers who recognized the necessity for impartiality and human understanding in management-employee relationships as vehicles to greater achievements for the A.B. Co. His occasional visits to the engineers and draftsmen assured them of a square deal in their ratings and eligibility for promotions for meritorious accomplishments. His work rotation assignments to engineering personnel to acquaint them with all the A.B. Co's phases of construction was in itself an educational blood stream that produced as great a staff of capable engineers as could ever be assembled under one roof. There is no substitute for an impartial incentive system that wastes no experience and gives new talents an opportunity to develop under sympathetic guidance.

JOSEPH A. ROY
Formerly Structural Engineer
U. S. Engineers on Garrison
Dam Project.

Who scrambled first?

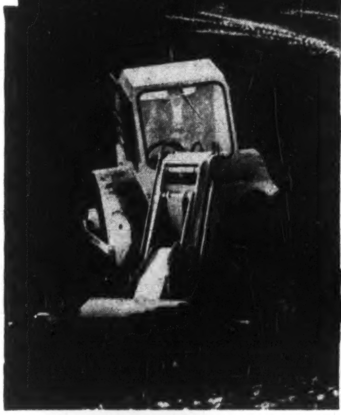
SIR: I wish to comment on the article "Baltimore to try new traffic systems," regarding the experiment with scramble and Barnes dance (ENR June 11). The city of Baltimore, though I know full well it needs some ideas in traffic improvement, needn't have waited until this late date and the advent of Mr. Barnes to try the above mentioned systems. Nor would it have to go as far as Schenectady, N. Y., or California. Its sister city of Cumberland, Md., had walk lights years ago—many years before 1942.

Well do I recall when our cousins from other and larger cities—Baltimore, Washington, D. C., Pittsburgh, Pa., etc.—used to get quite a laugh out of the country folks and their walk lights in Cumberland.

(*Continued on page 12*)

HIGH-STEPPING WORK HORSES

Powerful Dozermobile tractor-dozer literally glides over rough terrain, with all four wheels working under positive power. Axle oscillation is 20". The big 14:00 x 24 pneumatic tires give added traction and flotation, permit highway transport of vehicle at speeds up to 16 mph.



Working stability on uneven ground is job-tested feature of LD 5 Scoopmobile. Hydraulically operated bucket digs effortlessly, has exceptional "break out" action for fast loading.

Pow-R-Flex twist-turn flexibility saves maneuvering time in spotting bucket for both digging and loading. Result—more work per working shift.

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No stiff-legged workhorses on the job with hydraulically controlled POW-R-FLEX coupling!

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Dozermobile (Model DM 1): 8-cylinder 180 h.p. Chrysler V-8 industrial engine* — Ten speeds forward and reverse — 15" ground clearance — 18,000-lb. drawbar pull (calculated, 1st gear).

Scoopmobile (Model LD-5): 6-cylinder 114 h.p. Chrysler industrial engine*—Eight speeds forward and reverse—All hydraulic operation—Bucket discharge height, 9 ft.—Capacity, 1 cu. yd., struck.

Scoopmobile (Model LD-10): 8-cylinder 180 h.p. Chrysler industrial engine*—Ten speeds forward and reverse—All hydraulic operation—Bucket discharge height, 9 ft. 6 in.—Capacity, 1 5/8 cu. yd., struck.

*Diesel power optional at extra cost

PLUS all with *Planetary Drive* "KNUCKLE-DOWN" POWER

3 to 1 gear reduction. "Knuckle-down" power for the tough jobs. 4 planetary-geared wheel hubs reduce torque strain on axles and differential by approximately 65%, save on maintenance costs.

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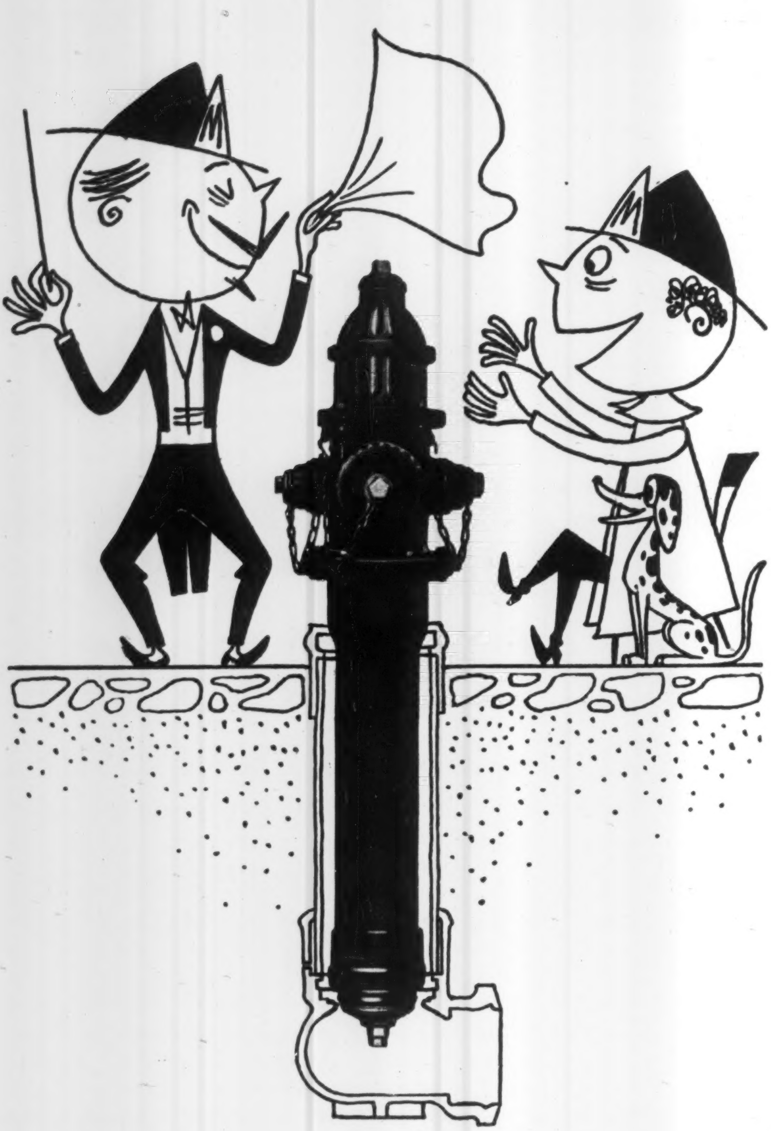

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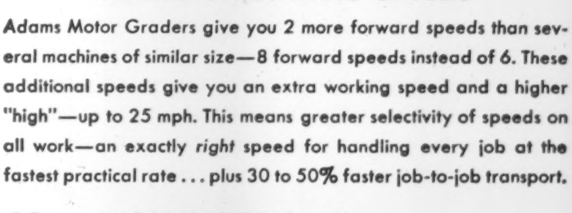
150th anniversary

ADAMS 8 SPEEDS . . . *provide*
a wider work range—higher transport speed


4 Average-Work Speeds
for Ditching, Scarifying, Bank Work, Oil Mixing, Spreading, Maintenance, etc.
2 Intermediate Speeds
for Climbing Heavy Grades and for Plowing, Blading and Bucking Snow
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Adams Motor Graders give you 2 more forward speeds than several machines of similar size—8 forward speeds instead of 6. These additional speeds give you an extra working speed and a higher "high"—up to 25 mph. This means greater selectivity of speeds on all work—an exactly *right* speed for handling every job at the fastest practical rate . . . plus 30 to 50% faster job-to-job transport.

Users the country over will tell you they like Adams 8 forward speeds. You'll like them, too, once you experience their time-saving advantages—an exactly right speed for every grading operation—a higher "high" for up to 50% faster job-to-job transport.

You'll find Adams Motor Graders unequalled for all types of heavy-duty work—grading, ditching, bankesloping, scarifying, etc. They're outstanding on oil-mix work, too (as pictured above)—mixing at speeds up to 8 mph and laying as much as 8,000 feet in one day.

Versatile performance—easy operation—rugged construction—husky, powerful engines—low-cost maintenance . . . these, and other big advantages, make Adams Motor Graders your best buy. Ask your local Adams dealer for full information.

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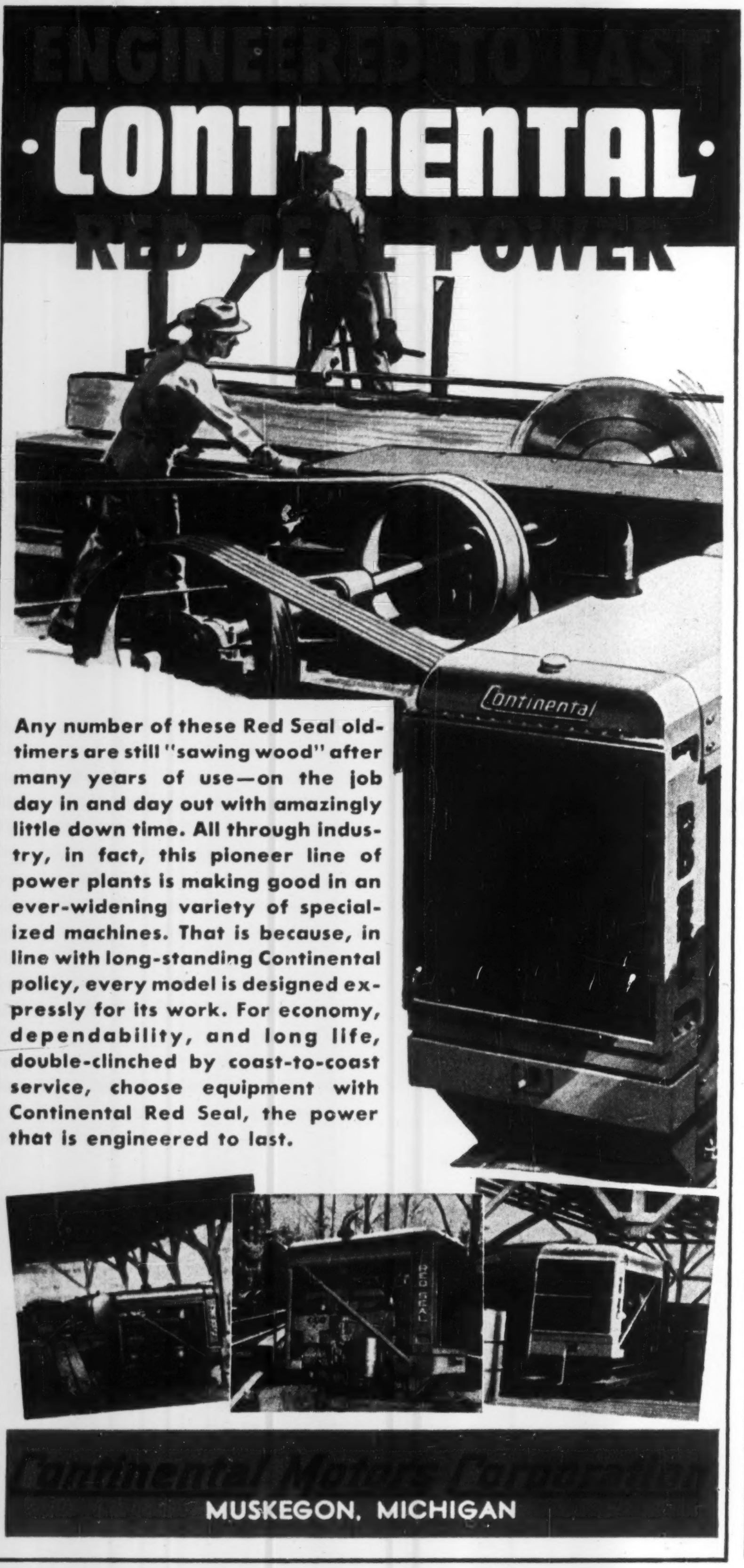
Make your next motor grader an **ADAMS**



ENGINEERED TO LAST
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READER COMMENT

A couple of years ago they took the walk signals out of Cumberland. Whether to make it appear more like the bigger cities or with the hope of speeding up its traffic, I cannot say; but I can say that it has been a time of confusion and congestion since they did.

Let's give Cumberland a little credit for having had a scramble or Barnes dance long, long before even Schenectady.

Helen M. Henderson
Star Route
Two Harbors, Minn.

Paul Bunyan did it!

Sir: One of my estimable confreres, Homer Hadley, in a letter in ENR May 21, p. 7, accused us of cautious loading on a prestressed bridge we designed for the Albion Creek Logging Co. I thought you would be interested in what actually happened.

In our Pacific Northwest woods, we have a fabulous character who takes care of all the problems of the loggers. His name is Paul Bunyan. He has performed such feats as excavating Puget Sound and other things too numerous to mention. He helped us out with the bridge pictures.

Our client was anxious to have the Forest Service approve the bridge. The best way to do that seemed to be to have a picture of two loaded trucks on the bridge. Paul Bunyan came along, took one loaded truck under each arm and spaced the loads on the bridge as shown in the photograph that was criticized. After seeing the photographs, the Forest Service accepted the bridge.

The agency's engineers were intelligent enough to realize that there was a concentrated load under one of Paul Bunyan's feet that was 1½ times the live load the bridge was designed for. His feet are about the same size as the track of a ¾-yd crawler rig.

Harry R. Powell
Consulting Engineer
Seattle, Wash.

CALENDAR

American Society for Testing Materials, annual meeting, Chalfonte-Haddon Hall Hotel, Atlantic City, N. J., June 28-July 3.

Summer program in Advanced Strength of, Materials, M.I.T., Cambridge, Mass., July 6-17.

City and regional planning programs, M.I.T., Cambridge, Mass., Aug. 21-Sept. 4.

Joint meeting International Association for Hydraulic Research and Hydraulics Division of the American Society of Civil Engineers, University of Minnesota, Minneapolis, Sept. 1-4.

American Institute of Park Executives, Denver, Colo., Sept. 13-18.

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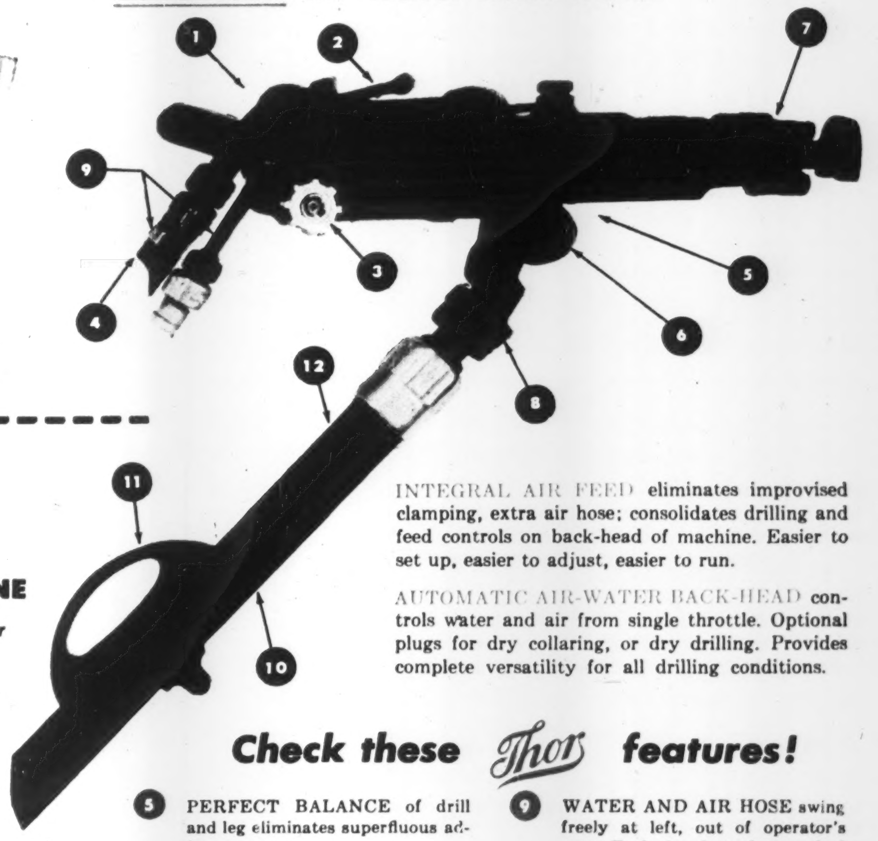

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Western Europe: Thor Tool Continental, Inc., Natienhuis Jordaenskaai 25, Antwerp, Belgium

Buried under dirt and sand, TIMKEN® bearings keep digger digging

HIDDEN under the pile of dirt indicated by the arrow in the picture is a 4-wheel truck that backs up the flying buckets of this Buckeye Model 314 Ditcher, made by Gar Wood Industries, Inc.

That dirt is one of the reasons the truck wheels are mounted on Timken® bearings. Because their tapered rollers permit pre-loading, they eliminate end-play in the axle. And their extreme accuracy keeps housing and shaft precisely concentric. As a result, the face-type oil seals can effectively seal out both dirt and the water encountered in digging ditches up to 6 feet deep. By the same token, oil is sealed in—so well, in fact, that these Timken bearings are normally lubricated only once every 1,000 hours.

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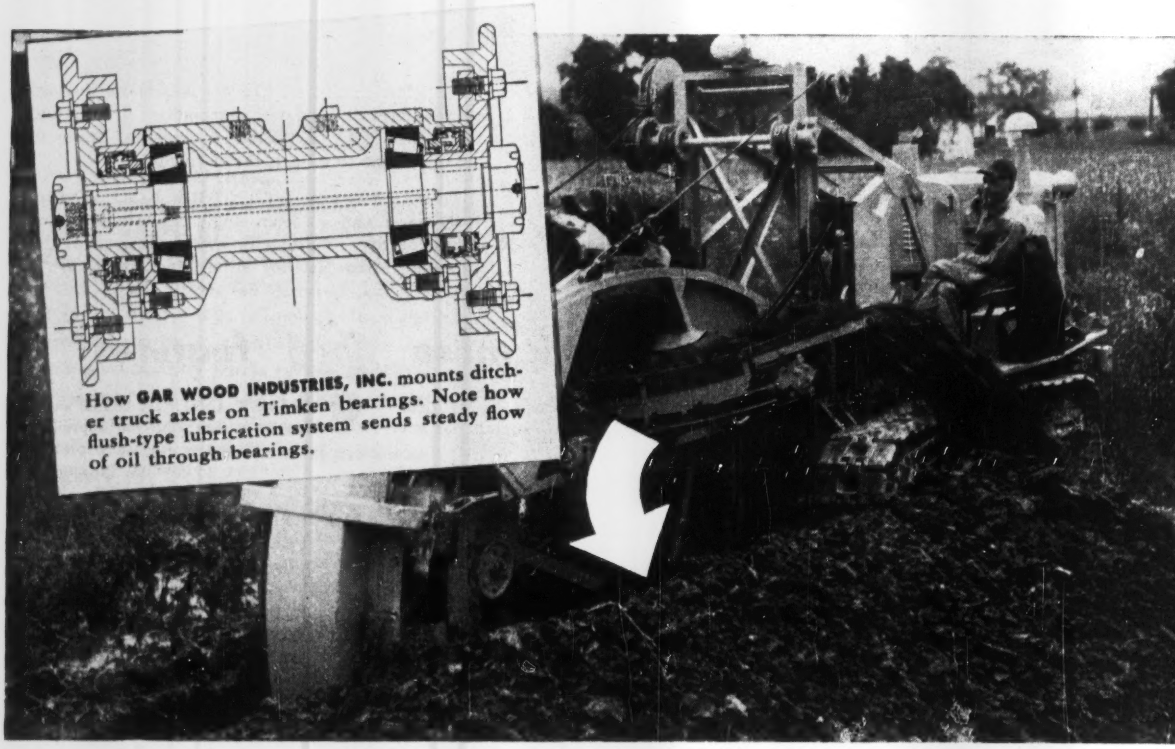
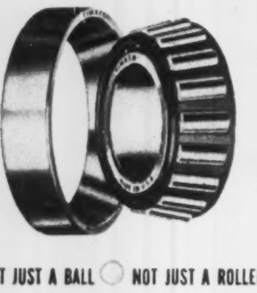


How **GAR WOOD INDUSTRIES, INC.** mounts ditcher truck axles on Timken bearings. Note how flush-type lubrication system sends steady flow of oil through bearings.



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THE CONSTRUCTION WEEK

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- **Labor policy?**—Here's a side-hunch on all that criticism of the national Administration's lack of a labor policy:

Some of the pundits on both sides of the labor-employer fence are beginning to believe there is a very real and strong policy—a policy of forcing labor and management to settle their own problems by providing them with an ever-shrinking opportunity for appeals to the government to settle.

There's evidence on the side of pundits: the abolition and then very weak re-establishment of the Atomic Energy Panel; the reluctance to amend Taft-Hartley; the rather obvious present understaffing of the Labor Department; the absence of policy statements on labor matters. And the experts hug tightly to their hearts the one bit of concrete evidence that such a policy might be working: the smooth settlement of steel wage problems a couple of weeks ago.

- **Power-Tool Rule?**—There are many wheels within the wheels that are turning to produce a New York State code for use of power-actuated tools. One set of wheels is a definite labor problem.

Buffalo building tradesmen a week or so ago decided to ban the use of the tools altogether—and the reasons are complicated. Almost all trades have been using the tools on the job, and there has been one fatality (a year ago) and some injuries.

But what scares the Buffalo tradesmen more is that the new code may, in effect, set up a new union craft that will have complete jurisdiction over use of the tools. General reaction was to ban the instruments. But the state is going ahead with its code anyhow.

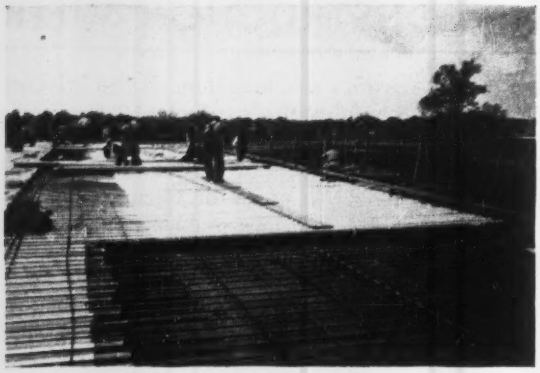
- **Back to the city**—You can take this, if you wish, with or without salt—but here's an opinion from a responsible housing official:

The movement of city-dwellers to the suburbs is about to slow down—decreasing home sales in many areas already show it. Next big movement for housers will be back in the cities themselves, with the attention centering on tax-producing replacement of substandard housing. And with that will come rehabilitation of commercial areas, now on the downgrade as clientele moves away.

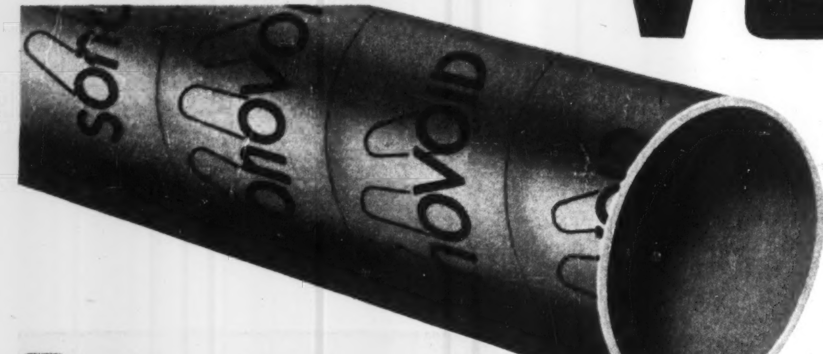
- **Point scored**—The National Society of Professional Engineers didn't miss an opportunity to score a point, in replying to an offer to affiliate with the Engineers Joint Council.

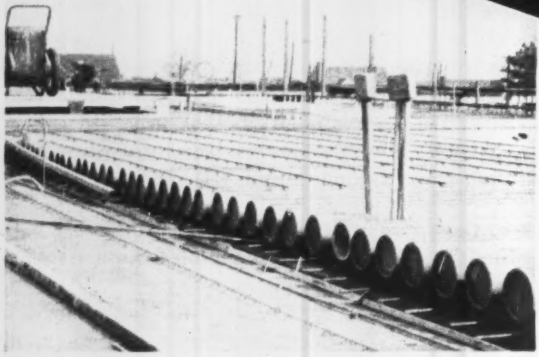
Said NSPE's convention (at Daytona Beach, Fla.) to EJC's invitation to join:

"There is fundamental distinction between EJC and an organization composed of individual engineers from all branches." Better, said NSPE, to appoint a joint committee to "explore and clarify the objectives of engineering units, then agree on which membership approach is best for engineering as a whole."



FLOOR SLABS





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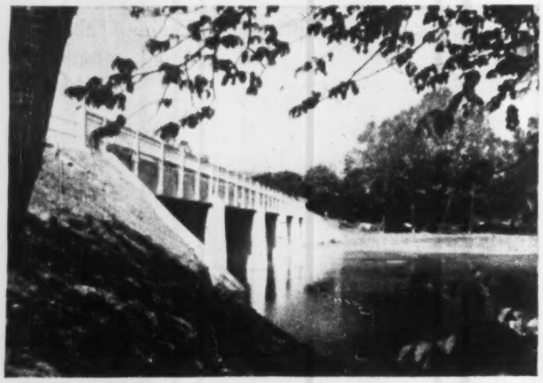

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WASHINGTON OBSERVER

A big turn-around in antitrust enforcement is under way at both Federal Trade Commission and the Antitrust Division of the Department of Justice.

Freight absorption by sellers of building materials has been approved specifically by Edward F. Howrey, Eisenhower's new chairman at FTC.

Howrey put FTC on record favoring the Capehart bill which makes "good faith meeting of a competitor's lower price" a complete defense against any charge of price discrimination.

Buyers of construction materials are affected. Manufacturers of such things as cement, wallboard, and electrical equipment were hauled into the courts during the 20 years of Democratic enforcement of the antitrust laws. Buyers have been affected by court-enforced changes in selling policies—end of basing-point pricing in steel and cement, for example.

•

Howrey is beginning a complete reorganization of FTC designed to get "compliance, not punishment"—with reliance on consultation and voluntary compliance rather than pulling companies before the commission and the courts with law suits.

Antitrust Division will be getting a thorough going over, too, from a national committee to study the antitrust laws just announced. Brownell is shooting for a new start on antitrust enforcement.

•

Control of the National Labor Relations Board will pass to Eisenhower this summer. Member Paul Styles, former AFL leader, is resigning. This with the already-announced resignation of chairman Paul Herzog, and the expiring term of John Houston gives the President three vacancies to fill in the five-man board. So efforts to expand the board to seven to up-end Democratic control will probably be dropped.

•

Opposition to Marvin C. Nichols to be Commissioner of Reclamation is still strong, may be growing. Efforts by Nichols, and Texas Republican Committeeman Jack Porter to get some word on the appointment were futile. The hitch to his appointment comes from White House adviser C. D. Jackson, who objects to Nichols' tenure as adviser to the Democrats on reopening and running the Cuban Nicarro nickel project.

•

Congress okayed FHA insurance of mortgages with lower down payments despite the fact that the Administration said it didn't want or need the authority. But the easing of terms won't become effective until Eisenhower says so.

So new FHA terms won't come automatically. Humphrey and other Administration "hard-money" men are still the last word inside the Administration.

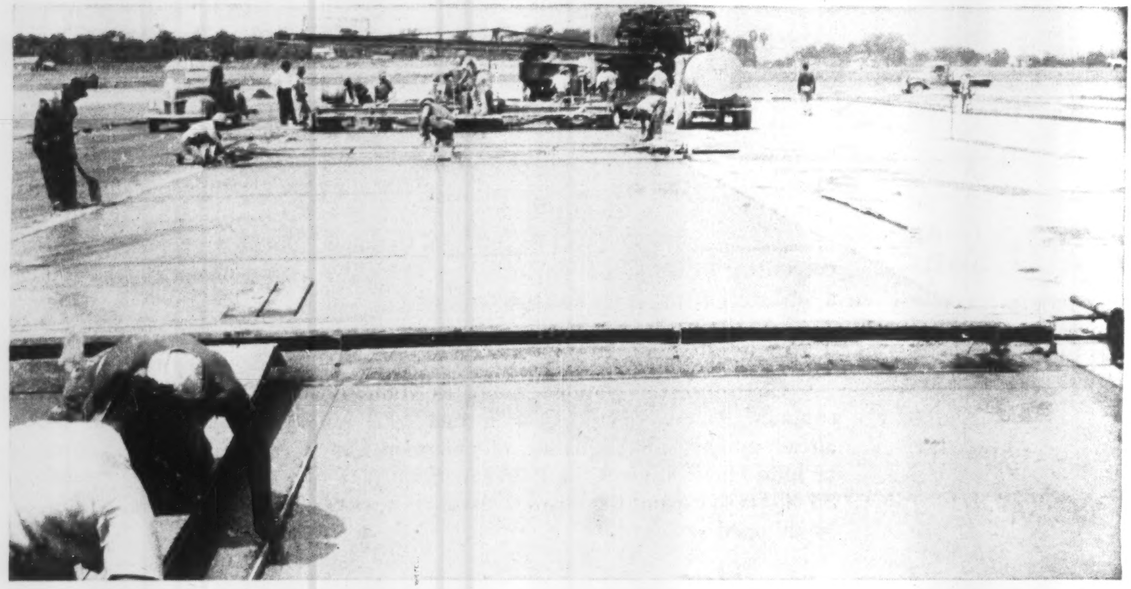
But those who favor easier terms got a big boost when Congress tacked the authority for easier down payments onto the Administration's own bill. Pressure from builders will be a lot more effective with congressional backing.

•

Hearings on the atom are just stage-setting. Present sessions of the Joint Congressional Committee on Atomic Energy are aimed at spelling out all the pros and cons of private atomic power.

Both the Administration and the committee are still divided on opening up the atom law now. So there's just no push to get amendments fast. But chances are better for amendments getting through next year.

Here's photo proof that DURAPLASTIC* minimizes bleeding and segregation



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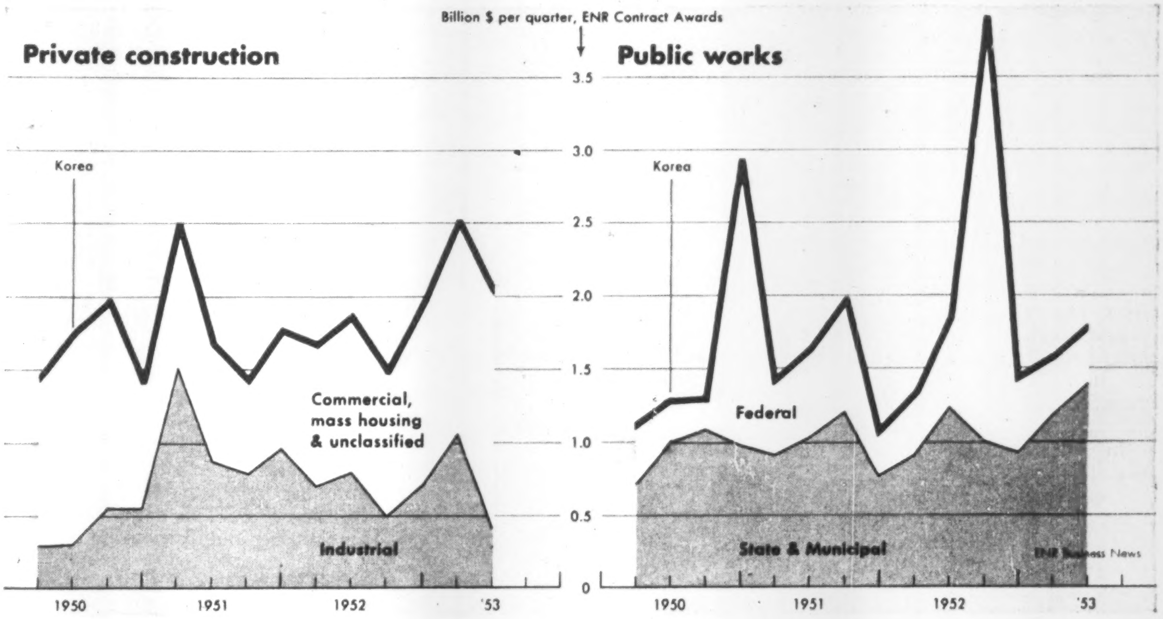


Contractors find bidding getting rougher

Profit shaving becomes more common as competition intensifies but mid-year survey shows volume up

Contractors are having to do some close figuring these days to become low bidders and some are already finding competition so rough they're shaving profit margins to get jobs.

A mid-year ENR spot-check, grass-roots survey finds contractors from coast to coast talking about bids they won and lost by the skin of their teeth. Business is still good but tougher to come by. Among the reasons why:

- Jobs are attracting up to three times as many bidders as a year ago.
- The spread on bids is becoming exceedingly narrow; public contract awards are more often below government estimates.
- There's a movement among contractors who have been engaged in relatively small projects to bid on bigger jobs and different types of construction, as for example from home and small commercial building to heavy construction.
- Contractors are seeking bids in new localities to a greater extent.

Fortunately, these conditions don't denote less work coming into the market. At the root of the competitive surge are two major factors:

- There are more contractors in the field (see page 70).
- Purchasers are in a position to demand more for their money and hence are more difficult to sell.

• Volume holds—Total volume of contract awards for the first half of this year, according to ENR reports, is 18% ahead of the similar period of '52 and 9% above the first half of the record year of 1951.

Contract awards in the second quarter of this year were 6% under the rate for the first three months, but it was still a record-high second quarter, 3% over 1952's high second quarter.

Federal contracts continued to slump in April and May but, with a speedier thaw of federal job authorizations frozen for budget review, awards were beginning to pick up in June.

State and municipal work, however, showed a sensational 19% gain over the first quarter and was 14% higher than for the second quarter of '52. For the first half of this year, awards are up 21% over the same period last year.

A slow-up in industrial building contract awards (ENR May 28, p. 23) was the principal reason for private construction in the second quarter trailing the first three months by 18%. Still, private construction in the second quarter exceeded that period of '52 by 9% and the half-year total was 28% over that of last year.

• What's behind competition?—Average number of bidders per job has risen steadily since controls were taken off early in the year. Decontrol encouraged contractors to line up new work in anticipation of being able to get materials easier.

In addition to the influx of newcomers, preliminary returns from another ENR survey of 4,200 contractors indicate a marked increase in capacity to take on more and bigger jobs and to complete them faster.

There's strong grass-roots indication that profits are being cut to obtain low bids. But, there still exists considerable reluctance on the part of long-established firms to follow suit. Indicative of their attitude is the comment of a spokesman for a Chicago construction firm specializing in government contracts, who declared, "We're trying not to do it."

Observed Robert Rothschild of Rothschild, Raffin & Weirick, San Francisco: "The more solid contractors are not lowering their margins of profit to get work, but those desperately in need of jobs are. This is particularly true of smaller contractors."

Two large Baltimore and Denver heavy-construction outfits reported that they have been unable to get a bid this year, the latter having submitted an average of two per week.

But, it's the closeness of the bidding that has disturbed most estimating departments. As a Cincinnati contractor points out: "To get the job, you have to study and re-study your estimates again and again. In other words, you must get the best possible estimate and then revamp it."

Indicative of the pencil sharpening that's going on is what happened on a recent telephone company job in Boston, on which the low bidder was only $300 below his nearest rival and the spread between the first and fifth bidders was only $4,000.

The Georgia State Highway Department's May lettings showed net bids 12% under estimated cost. From Baltimore comes the report that practically all school building contracts let this year have been well below the city's estimate.

"The client is out shopping more—he can take advantage of competitive factors because materials are available and he doesn't have to settle for what he can get," observes Denver Markwith, Jr., vice-president and general manager of Buttress & McClellan, which has a lot of industrial and commercial construction work in the Los Angeles area.

• Construction costs—The round of labor contract negotiations now drawing to a close is resulting in an average wage increase of 4 to 6%, plus minor fringe benefits. In these negotiations, the construction industry has fared better than in recent years.

Since decontrol, the price structure has remained relatively stable with two noteworthy exceptions. One was the broad 15 to 20 cents per barrel increase in cement prices posted April 1. The other was the mid-June 6.5% increase in the mill price of steel.

Contractors generally are expecting the materials price level to remain stable for the rest of the year. They think competition among suppliers will see to this.

With wages already up, contractors in housing and commercial work are banking heavily on stability of materials prices to keep costs from becoming a further impediment to sales. Commented a Colorado residential and commercial builder: "With labor costs having gone up, materials costs will have to stay at present levels in order to keep the finished prices of construction within reach of consumers."

Except for steel, complaints of materials shortages and erratic deliveries are getting few and far between. Steel deliveries are still behind in many sections of the country. Structural shapes and sheet piles are critically short.

• Second half outlook—ENR's spot-check survey found contractors generally optimistic that current volume would be sustained or bettered in the second half of the year. For one thing, they noted that more federal work would be coming in as a result of the new Administration winding up its project reviews (see story below).

Here and there the outlook is tempered by a note of pessimism or caution, Cleveland and Cincinnati builders, for example, are taking a dim view of prospects for industrial work. There is talk in Cincinnati of many companies having shelved expansion plans for the time being or settling for purchase of an existing plant.

• Housing takes dip—Housing starts for the first five months of the year total 465,300, only slightly higher than the '52 period, as reported by the Bureau of Labor Statistics. However, private starts are up 4% over 1953 with 439,900 units started by the end of May. Public housing is dropping off sharply this year—25,400 starts in the first five months or 32% less than the corresponding period in '52.

First evidence of weakening in the new home market came in May, when starts dropped to 107,000 which is 3% less than April and 2% under May 1952. While public starts continued to drop off, there was an unexpected 2% drop in the number of private starts.

Home builders almost everywhere are conceding more sales resistance but they are not talking slump as yet.

A boom condition worth noting is in the Los Angeles area, where the Chamber of Commerce reports $484.5 million in building permits issued during the first five months of this year. This is a gain of $135.4 million over the similar period last year. Of the total, $318.5 million represents residential permits.

There is pretty general agreement that commercial and industrial building in the Los Angeles area will continue to thrive throughout the year, largely because of the population growth and the fact that eastern firms must meet this market by building branch plants or at least warehouses.

Speaking of the outlook for greater private industrial building, W. L. Fryar, manager of market development for J. Twaits Co., Los Angeles, finds there is a rising interest in "lease-back" plans, whereby the contractor buys land, builds and sells the package to an insurance company for rental to a specified firm. This applies chiefly to warehousing and distributing facilities.

• Backlog building—Projects estimated to cost a total of $8.5 billion were proposed in the first six months of this year, according to ENR reports. This is 27% above the same 1952 period.

Private construction accounts for $4.8 billion of this work going into the backlog or 41% more than that proposed in the similar period last year. Proposed public work amounting to $3.7 billion represents a 12% increase over the first half of '52.

The standing backlog is now at a new high of $71.9 billion.

Military construction awards go up as budget reviews near completion

Military construction awards are back on a clear track. All three services have had enough projects cleared by budget reviewers to step up bid advertising and contract awards beyond the usual rate.

The three services plan to push balanced construction programs, with project awards adjusted to revamped priority schedules. As of last week, it seemed likely that the military services could put their projects under contract when ready, without much fear of overshooting 1954 spending goals.

• Unfreezing almost completed—Programs have been pretty well cleared by the Secretary of Defense. Only small fractions of the programs of the services awaited clearance last week.

Clearing of projects has gone ahead steadily. As long ago as May 15, the Office of the Secretary of Defense was already well over the hump on clearances. Of total programs estimated to cost $4.7 billion, OSD had cleared nearly $3.3 billion (almost 70%) by that date. Secretaries of the Army, Navy, and Air Force had certified as essential and submitted to OSD, by May 15, projects totaling $4 billion.

Figures for the three services on May 15 show why they are now close to 100% on project clearances. Of $3.1 billion in the Air Force program, $2.7 billion had been certified as essential and $2.2 billion had been cleared by OSD. For the $1.1-billion Army program, $867 million had been certified and $645 million cleared. In the Navy's $454-million total program, the Secretary of the Navy had certified $438 million and OSD had cleared $414 million.

Federal spending outlook: down but still good

Probable construction outlays for fiscal '54 are 10% under last year's; military hardest hit, AEC increased

Cash construction outlays by the federal government in the next twelve months will run about 10% less than in fiscal 1953, the year just ended. That was the outlook in Washington last weekend, as Congress worked overtime to pass a dozen money bills for fiscal 1954.

Estimated construction spending in fiscal 1953 amounted to about $6 billion. A 10% reduction would bring the 1954 expenditures down to something like $5.4 billion.

Compared to the 1954 spending estimates in the Truman budget of last January, the cut is much bigger. Budget estimates at that time added up to a construction spending total of more than $6.9 billion for fiscal 1954. Curtailed spending now planned slices more than 20% off the Truman total.

• Military hardest hit—Biggest single reduction proposed by the new Administration is in military construction. The military services spent about $2.2 billion in the year just ended. Six months ago they had ambitious plans to spend more than $2.5 billion in fiscal '54. Under the spur of Administration directives to revise and curtail their programs, the services now seem likely to spend about $1.7 billion on construction in 1954, a 22% reduction below last year and 33% below the Truman estimates.

Not much new money is required by the military services to carry out the revised construction programs for fiscal 1954. They have substantial carryovers of unexpended and unobligated funds from previous appropriations. The Administration has asked for—and expects to get from Congress—such additional money as is needed.

• AEC expenditures up—In the federal government's second largest construction program—that of the Atomic Energy Commission—there will be an increase in 1954 expenditures over 1953. The AEC plans to spend $1.47 billion, a 29% rise above the $1.14 billion spent last year, but nearly 12% less than the $1.66 billion less than projected in the original budget estimates.

Heavier spending on projects already under way—such as the big plant in Pike County, Ohio—accounts for the increase over last year. Curtailed reactor plans are mainly responsible for the reduction below earlier estimates.

Like the military services, the AEC awards no contracts for a project until Congress votes the entire sum of money needed to pay the estimated cost of the complete installation. For that reason, the commission has an ample carryover of unexpended funds to cover spending on its continuing projects in 1954. No new construction money is needed.

But that funding arrangement does not apply to other civilian programs of the federal government. These programs depend on annual appropriations to keep them rolling. The appropriation bills on which Congress is now acting will largely determine the construction spending under each program this year.

Appropriation measures had shaped up sufficiently by last weekend to indicate pretty clearly how much new construction money will be voted. To that money must be added the carryover balances of unexpended construction funds in the hands of the agencies.

• Major public works jobs—Here is the spending outlook for some of the major construction programs:

- Rivers and harbors and flood control (Army civil functions) will spend about $465 million on construction, as compared with $560 million in fiscal 1953. The spending will come out of $350 million of new construction money plus $265 million of construction carryover, leaving about $150 million as the unexpended balance at the end of the year.
- Construction spending by the Reclamation Bureau probably will run about $142 million, as against $189 million in the year just ended. The expenditures would be met from $124 million in new money plus $39 million in carryover funds, leaving a narrow margin of $20 million unexpended next June 30.
- Expenditures for construction by the Tennessee Valley Authority, which builds its own projects, likely will be about $240 million, a reduction of $30 million below last year and $60 million less than TVA originally proposed.
- Spending by the Bureau of Public Roads, mostly in federal aid to the states, should increase over the $525 million total estimated for last year. The 1954 construction expenditures probably will go to $540 million or $550 million.
- Public housing loans to local authorities are expected to decline below last year's estimate of $235 million. With the issue still being debated in Congress, only a guess can be made, but the figure may be about $150 million.
- Civil Aeronautics Administration expenditures on construction for navigation facilities and aid to local airports will be less than the $52 million, estimated for last year; they may amount to about $40 million.
- Expenditures by the Public Health Service, used for construction of local hospitals, are expected to drop below the 1953 estimate of $37 million to a 1954 level of about $30 million.
- Construction spending on veterans hospitals probably will be about $50 million, only half the expenditure estimated for fiscal 1953.
- For the Bonneville Power Administration, the year's construction spending may run about $46 million, as compared with the estimate of $54 million for the last year. The Interior Department may spend $39 million on construction in the territories, slightly more than in 1953, and the Bureau of Indian Affairs probably will cut its construction spending to about $16 million, a drop of $6 million below the estimated 1953 expenditures of $22 million.

Overall, the reductions greatly exceed the increases; they point to a cut of close to 10% below fiscal 1953 in federal construction spending this year.

Flame-resistant coating for insulation board

The nation's insulation board manufacturers have agreed to treat all board with a flame-resistant coating, in recognition of the heavy fire losses in which this type of building material has figured.

Percy Bugbee, general manager of the National Fire Protection Association of Boston, disclosed the voluntary industry-wide move at the 31st annual conference of the New England Association of Fire Chiefs at Portsmouth, N. H., last week.

Fort Randall contract let

Final earthwork contract on Fort Randall Dam, most advanced of the Missouri River Pick-Sloan plan projects, has been awarded by the Army Engineers Omaha District Office to List & Clark Construction Co. of Kansas City. The $5.1-million contract is for placing the final 9,000,000 yd of fill in the 28,000,000 cu yd embankment. The project is now 65% complete.

Test wells in Boise Valley initiate study of Sloan irrigation scheme

Initial investigation has been undertaken by the Bureau of Reclamation into the so-called Sloan plan for irrigating 123,000 acres of land near Mountain Home, Idaho (ENR April 16, p. 25).

Harden & Co. of Boise was low bidder at $20,599 for drilling a dozen wells in the Boise Valley which will be used to observe the effect of ground water pumping. Under the development plan proposed by W. G. Sloan, former bureau engineer, approximately 225,000 acre-ft of the 600,000 acre-ft required for the project would be obtained from 450 drainage pumps in the Boise River Valley, north of the proposed project.

The U. S. Geological Survey may seek appropriations up to $400,000 for a four- or five-year study of the Boise Valley drainage problem. Because of the volume of water required for the alternate Mountain Home project, a study over an extended period was believed indicated. The tests are needed to determine whether the ground water pumping supply is adequate and continuous.

• Represents substitute—The Sloan Plan is an alternate proposal for the 183,000-acre Payette unit of the Mountain Home project proposed by the Bureau of Reclamation but turned down by Congress because of high costs. The Sloan Plan would water 123,000 acres through an annual diversion of 540,000 acre-ft from the South Fork of the Boise River.

Replacement of water diverted from the South Fork of the Boise, now allocated as supplemental water for the Boise project, would be accomplished by pumping an average of 150,000 acre-ft annually via Deer Flat reservoir—a facility of the Boise project—from the Snake River and by pumping ground water from an estimated 450 wells to be installed adjacent to the existing main canals in the Boise Valley. The wells would provide urgently needed drainage.

As part of studies toward development of these installations the bureau has begun core-drilling at the sites for proposed pumping stations and power plants.

The studies by the bureau were started after James K. Carr, engineering consultant for the House Committee on Interior and Insular Affairs, made a report on the Sloan Plan at the request of Rep. Hamer H. Budge of Idaho. Carr endorsed Sloan's proposal as a "preliminary" study. He further recommended "initiation as soon as possible of a study including field tests and geological surveys to determine the probable yield from ground water pumping, its cost, its effect on currently used return flows and the probable drainage benefits together with a study of available supplies from the Snake River."

• Exchange of water rights—Carr said the Sloan Plan was feasible from an engineering standpoint, was economically justified and was financially feasible and could be repaid under provisions of the reclamation law.

He pointed out that the alternate plan involves an exchange of water rights by Boise Valley farmers. They would exchange a portion of their existing surface water rights for ground water rights. "This requires shifting points of diversion and proving that substitute supplies can be provided equally satisfactory as to quantity, quality and time," Carr wrote in his report on the Sloan Plan. "In estimating a 'construction period', it would be well to allow some time for these difficult negotiations prior to beginning construction," he declared.

Approval of the valley irrigators will be the key to ultimate approval of the plan because the major portion of water which will be diverted from the Boise River flow has been allocated to them by contract.

FPC gets Interior Hell's Canyon reports

Two reports favoring federal development of the Hell's Canyon reach of the Snake River have been submitted to Federal Power Commission by the Interior Department.

Interior has also handed FPC two other reports finding there is sufficient river flow to justify construction of either a high federal dam or multiple dams proposed by the Idaho Power Co.

Hearings on the Idaho power application to develop the Snake River are slated to reopen before FPC next week. Interior has stepped out as a special pleader for federal hydroelectric development but submission of these reports indicates the department is making sure both sides of the case are presented (ENR May 14, p. 23).

In addition to the formal reports, Interior offered to make other factual information available and also loan engineering personnel to FPC.

John S. Cotton, consulting engineer of San Anselmo, Calif., wrote one of the reports submitted last week. His summary and conclusions: (1) neither the 5-dam nor the 3-dam scheme proposed by Idaho Power is economically feasible, although the 3-dam plan is more attractive. (2) The federal Hell's Canyon plan is economically feasible and most attractive from all points of view. This plan would provide some 600,000 adidtional low-cost firm kilowatts which otherwise would be lost forever. (3) The federal plan represents high design standards.

Cotton, a former FPC regional engineer, was retained by former Interior Secretary Oscar L. Chapman to prepare the report comparing the proposed Snake River projects.

A second report written by J. R. Riter, chief hydrologist of the Reclamation Bureau's project planning branch, also finds in favor of the federal plan. This report originally had been prepared as a part of Interior's testimony for the federal project.

Riter finds that the cost per kw of salable firm power at load centers would be $23.30 for the high dam as compared with $25 for the company three-dam plan. But an alternative two-dam plan, says Riter, could bring this cost down to $23.

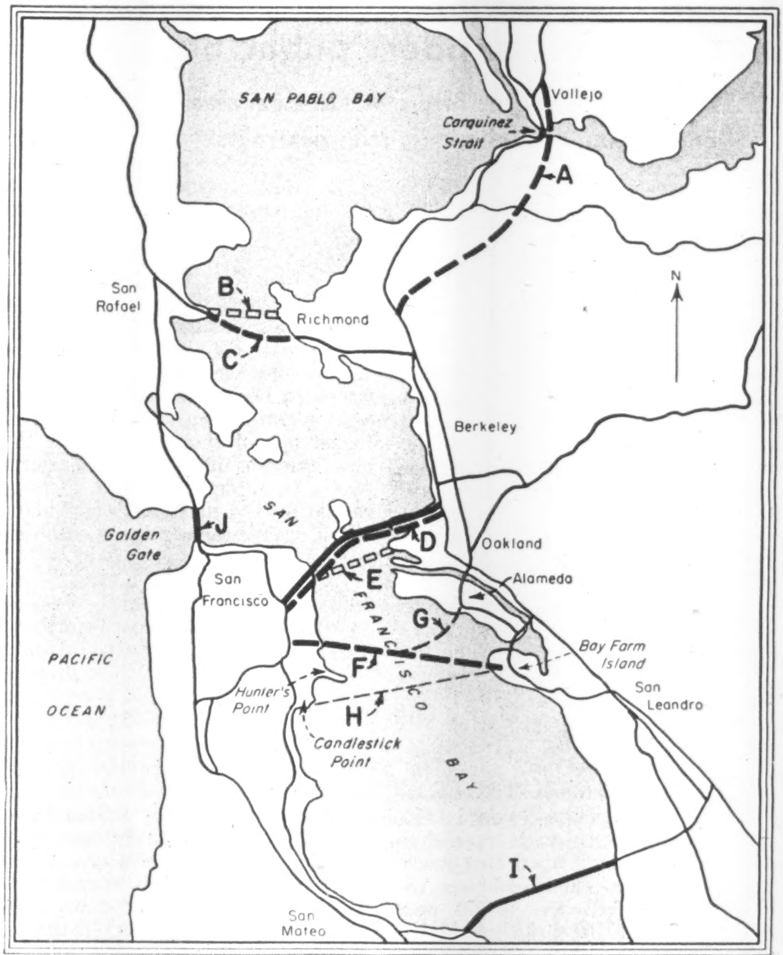
Reports by a Los Angeles firm of consulting engineers and by Lynn Crandall of the U. S. Geological Survey both show there is plenty of water in the river to justify either the federal or the company plan.

Golden Gate Bridge truss stiffening job proceeds

A contract for addition of a bottom lateral system to the stiffening truss system of the San Francisco Golden Gate Bridge, has been let to the Judson Pacific-Murphy Corp. of Emeryville, Calif., on a low bid of $3,062,216. Three other bids ranged from $3.3 to $3.6 million.

The purpose is to provide additional resistance to vibrations induced by wind in the 4,200-ft central span of the bridge (ENR Jan. 22, p. 22).

The bridge deck now is stiffened by an inverted U-shaped system. The new work will convert this to a box shape. This change will make the support system 35 times stiffer in torsional resistance, according to Clifford E. Paine, one of the three consultants who made a study of the bridge after a windstorm on Dec. 1, 1951, had induced a vertical movement of 13.0 in.—in double amplitude—in the bridge deck.



ADDITIONAL CROSSINGS of San Francisco Bay are under construction, authorized or under study at the points indicated by the letters A to J. They are A, a second Carquinez Strait bridge with a connecting freeway; B, a projected salt-water barrier dam and causeway; C, the Richmond-San Rafael Bridge, now under construction; D, a projected bridge parallel to the existing San Francisco Bay Bridge; E, a second salt-water barrier dam and causeway; F, an authorized causeway; G and H, alternate locations for the authorized causeway. I and J are the existing San Mateo and Golden Gate bridges.

San Francisco Bay plans finally move

Legislature clears two crossing projects for design work; votes study of controversial earth barrier

After seven years of controversy and very little progress on the problem of additional bay crossings in the San Francisco-Oakland metropolitan area, this year's California legislature met the issue head-on with three major actions. Here is what these important actions concerned.

Most spectacular was its decision in favor of the "southern" site for a new San Francisco-Oakland crossing, turning down the alternate proposal for a long bridge parallel to the present San Francisco Bay Bridge, which has been supported by Gov. Earl Warren and the State Toll Bridge Authority.

This latter decision was backed up by an appropriation of $1.5 million for surveys and plans for a causeway at the southern site.

In a second bill, the legislature voted $800,000 for detailed designs for a second bridge at Carquinez Strait parallel to the present bridge. This project, which would combine a bridge and freeway approaches for what may prove to be California's first toll highway, will ease traffic congestion between cities on San Francisco Bay and cities in the Sacramento Valley.

• **Earth barrier crossings**—In its third action the legislature tackled the long-debated subject of earth barrier crossings of the bay, voting $250,000 for a study of this possibility by the State Water Project Authority. The authority was directed to determine the feasibility and economic value of barriers to store flood waters, thus ultimately making available additional fresh water. It will study the possibilities of using the barriers for highways to relieve traffic congestion, and possibly for rail crossings.

In making the study the authority must consult with the Navy, the Corps of Engineers, Bureau of Reclamation and local port districts, submitting a report to the legislature not later than March, 1955.

This bill was the result of pressures build up last year when earth barrier proponents tried furiously to block construction of the recently started bridge across the north arm of San Francisco Bay between Richmond and San Rafael. They feared that the building of this bridge automatically would eliminate some of the arguments favoring construction of a barrier across the northern arm of the bay. Their proposal calls for forming two fresh water lakes by construction of barriers across both the northern and southern arms of the bay, as proposed under the Reber Plan (ENR Nov. 24, 1949, p. 29) to supply large quantities of fresh water needed for development of the bay area as well as providing causeways for movement of both highway and rail traffic.

Meanwhile, construction has begun on the $62-million Richmond-San Rafael crossing, which initially will carry two lanes of traffic. When traffic justifies it at a later date a second deck can be built, providing three lanes each way.

• **Southern crossing**—The southern crossing will consist of an 8-mile causeway, including vehicle tubes under the main channel. This is estimated to cost $200 million. As authorized, it is to extend from Army Street in San Francisco to a point known as Bay Farm Island south of Alameda. However, if the Army Street Terminal is not approved by the Corps of Engineers, the western end can be shifted south to Candlestick Point. Because that point is south of the Hunters Point Shipyards, an open channel would not be so essential and lift spans might be substituted for the vehicle tunnels, thus cutting the cost and the time required for construction.

The Bay Farm Island terminus on

the east side will allow motorists coming from the south and east to cross the bay without going into downtown Oakland, which would have been necessary if the bridge terminated at Alameda. Arterial routes through Alameda are authorized in the legislation, as is a second vehicle tunnel under the estuary between Alameda and Oakland to supplement the present tunnel.

• **Possible sources of delay**—Two obstacles have yet to be overcome before actual construction can be authorized. The first is approval by the Corps of Engineers, as the crossing must go over or under a navigable channel. The second is financing, because the legislation specifies that tolls from the present Bay Bridge are to be used in part to finance the new facility.

A federal law enacted in 1931 when the Bay Bridge was being built provided that tolls on the bridge were to be used only to pay the cost of constructing, operating and maintaining that bridge. A further complication is the fact that the Bay Bridge must be toll free when funds in hand are sufficient to pay off a $21-million bonded debt. Present estimates place that time during September of this year.

As a result, supporters of the southern crossing already have started a move to get congressional approval of the plan to continue tolls and use them to help finance the new crossing. They may be opposed by supporters of a bridge parallel to the Bay Bridge.

• **Cross Bay traffic increases**—Meanwhile vehicle traffic across the bay continues to increase. Many believe that a third crossing will be needed by the time the second is completed, possibly five years from now.

The contention is that enough new traffic will be generated by a second crossing to make a third necessary and financially feasible. Traffic on the Bay Bridge now is averaging 85,000 vehicles daily, which is about its theoretical maximum, although it has carried almost 96,000 in a day.

In the last five years the average daily traffic rose from 70,768 in May, 1948, to 84,930 in May, 1953.

In Washington, Sen. William Knowland, who has long fought for the parallel span, said he "would be inclined" to favor legislation allowing continued tolls on the present Bay Bridge only if the money could be used to construct both a parallel span and a southern crossing.

He suggested a formula that would put 50% of the tolls into a sinking fund for subsequent construction of a twin bridge.

Urban redevelopment hangs in balance as Congress considers public housing

House bill threatens future of 128 slum clearance programs and voiding of preliminary loan contracts

Congress will decide this month the fate of public housing. Seriously affected by that decision will be the slum clearance and urban redevelopment programs of U. S. cities, involving over $1 billion in currently planned construction.

If the House version of the first Independent Offices Appropriations Bill prevails, no new public housing will be permitted in fiscal 1954. The Senate wants to continue the public housing program on its current basis of allowing construction of 35,000 new units for the year.

In effect, the House bill would stop or indefinitely delay 128 slum clearance programs in 85 communities because there would be no new low-rent public housing available for the families who must be moved from the slum site. The total estimated private investment involved in these 128 slum clearance programs is placed at $1,147,500,000.

• **Would upset contracts**—The original Housing Act of 1949 authorized 135,000 dwelling units each year, but Congress has never voted that many for any one year. The Eisenhower Administration asked for 35,000 new housing units in 1954, the same number as were allowed by Congress for fiscal 1953. The House bill beside permitting no new starts, would practically put a stop to the public housing programs by canceling as many preliminary commitments as possible.

A clause in the bill provides that the Public Housing Authority cannot enter into any kind of an arrangement which binds PHA to subsequent loans or authorizations for housing projects. This clause will make void all preliminary loan contracts for some 120,000 dwelling units across the U. S. The cancellation of preliminary loan contracts for these 120,000 units will hurt a good many cities which already have made some expenditures on the strength of the contract for planning and for condemning property.

There are, however, final loan contracts for some 70,000 housing units that will be carried out in the next few years. These contracts hold good and will not be affected even if the House proves adamant and forces the Senate to accept its version in order to get the bill passed. That is not likely; the House probably will have to compromise.

• **Los Angeles fracas**—Added impetus for the congressional drive against public housing comes from the Los Angeles fracas of the last three years. In 1949 the City of Los Angeles entered into a contract with PHA for construction of 10,000 housing units in a $110-million program. By 1952 the housing development was under way with expenditures amounting to $11 million. Then Los Angeles tried to get out of the contract, but the city's case was ultimately ruled against by the U. S. Supreme Court. A referendum showed the voters were almost solidly against the continued construction of the housing units.

Los Angeles elected a new mayor last month on the public housing issue, deposing the 15-year incumbent whose administration had piled up a $44-million obligation through continued construction of housing units. Los Angeles still can't get out of its contract with the government, but it hopes to stop the housing project at the $44-million stage.

As insurance against similar housing trouble elsewhere, the appropriations bill before Congress has a clause providing that any city may stop a housing authority project at any stage if the citizens or their representatives so vote.

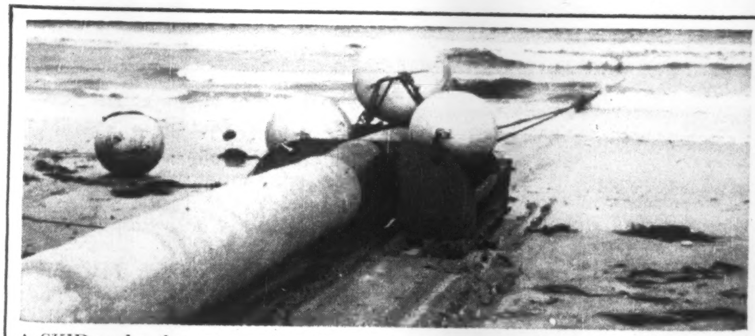
N. Y.-Cape Cod expressway proposal to be studied

A proposed coordination of road-building activity by the three southern New England states to provide a shoreline expressway from New York to Cape Cod is under study by a committee of the highway commissioners of the states involved.

The governors of Connecticut, Rhode Island and Massachusetts authorized the study at a recent meeting in Providence, R. I., requesting a report by Oct. 1.

The highway would link Connecticut's planned Eastern Expressway with new and existing facilities in Rhode Island and with the Fall River-Boston Expressway and a new Fall River-Cape Cod expressway in Mass.

The proposal calls for a new high-level suspension bridge across the east passage of Narragansett Bay, and for divided-lane highway construction along new routes across two sections of the Rhode Island mainland and across Jamestown and Acquidneck Islands.



A SKID under the outer end of the pipeline was equipped with buoys to give it a slight buoyancy to keep it from digging into the ocean bottom. Pulling power was supplied by cables from the barge anchored offshore. Divers cut the buoys free from the skid when the pulling job had been completed.

MOBILITY FOR THE PIPELINE inshore was provided by rail-mounted dollies. As each 270-ft length of pipe was pulled out to sea, a new length was set on dollies and welded to the pipeline in place.

Long ocean pipeline laid in 13 hours

Two Pacific Coast contracting organizations made a 13-hour job out of laying 4,200 ft of 20-in. steel pipe —most of it under the ocean. The pipe was encased in concrete to overcome the buoyancy of the empty pipe so that it would sink to the ocean floor.

The task was accomplished for the San Diego Gas & Electric Co., at its new Encina steam generating plant north of San Diego, Calif.

Applying the concrete and joining the pipe lengths was handled by the Pacific Pipeline Co., of Montebello, Calif., and installation of the pipe was by Haviside Co. of San Francisco.

The pipeline extends from two storage tanks at the power plant to a point 3,000 ft out in the ocean where there is a 50-ft depth of water. Its outer end is on the ocean floor beneath a buoy to which it is connected by a rubber pipe. Tankers anchored at the buoy will pump oil into this pipe for delivery to the tanks, which have a combined capacity of 263,000 bbl. Initially, 1,000,000 gallons of oil will be delivered in this way; ultimately the figure may be 5,000,000 gallons.

In the final operation of assembling the pipe and pulling it out to sea, work started at 7:00 AM May 21 and was completed at 8:00 PM that day. Previous to this operation the pipe was assembled into 270-ft long units and coated with concrete except at the ends. Welding these end joints was done as each unit was added to the pipeline during the launching operation.

No concrete was applied over these joints as the added weight was not needed. After welding they were hot mopped, covered with canvas and hot mopped again. Then an electrical device was used to test the completeness of this protective coating.

For the launching, the pipe was set on dollies mounted on rails. Where the pipeline passed under a highway it was run through a large culvert pipe built through the highway fill by tunneling.

Pulling the line out to sea was done by cables from steam winches on a derrick barge lying offshore.

Professional victory

Texas court upholds the architect's judgment in a case charging favoritism

An architect in Dallas, Tex., has just won a case that roughly parallels the now famous challenge to the discretionary powers of engineers on the Ohio Turnpike (ENR June 11, p. 21).

Roscoe P. DeWitt, architect for a proposed staff and nurses home at the new city-county Memorial Hospital, specified cast-in-place or precast concrete piles for the foundation and called for bids on that basis. After bids had been opened on June 5, the Foundation Drilling Contractors Assn. obtained a restraining order to prevent award of the contract.

Preston Scott, president of the association, claimed that the specifications discriminated unfairly against the drilling contractors in favor of the Raymond Concrete Pile Co. The latter firm, he charged, had a virtual monopoly on the equipment needed for the work.

DeWitt testified that "any number of companies in the state are equipped to furnish foundations for the building." He stated also that drilled pier foundations would be perfectly satisfactory under certain conditions but that in this case they would cost more because large bell bottoms and shafts would be required to be repoured to obtain a safe bearing area.

Albert J. Bonner, an associate of Southwestern Laboratories, Houston, testified that borings might disturb the strata underlying the building. That laboratory recommended piles, as did R. L. Rolfe, consulting engineer of Dallas.

After two days of hearings on a plea that the architect be required to issue new specifications and a new call for bids, Judge W. L. Jack Thornton of the district court denied the request. As the contractors do not plan to appeal, it is now expected that work on the $900,000 hospital building will start soon.

Toll authority upheld

Power of the Massachusetts Turnpike Authority to acquire land for gas stations, restaurants and other facilities to abut the proposed $200-million cross-state toll highway has been upheld by a ruling of the State Supreme Court.

Gov. Christian A. Herter had asked for a clarifying opinion, after a taxpayers' group threatened litigation to test this aspect of the state's toll road enabling act.

ENR photo by Compton

UNION CHIEF Howard McSpedon, president of BTC, asked more time.

Photo by Elkins

CONTRACTOR LEADER Fred Driscoll, president of BTEA, met with employers.

New York City construction strike hinges on extension agreement

Master-agreement plan dropped by both sides in carpenter-led demands for higher wages

For the first time in more than five years New York City's construction industry this week faced the serious threat of a crippling strike as insurgent unions within the city's Building and Construction Trades Council tried to force a showdown.

Key to the dispute—which is officially a fight over wages—is found in the city carpenter and dockbuilder district councils, which had succeeded, as the week started, in upsetting the model collective agreement covering wages and hours.

The collective agreement was signed originally in 1949 between the BTC and the Building Trade Employers' Assn., to cover the more than 1,000 contractor-members of BTEA and 23 of the component unions of BTC. Numerous other trades continued to negotiate separate contracts with their employer associations, outside the collective agreement, but generally followed its terms.

The collective agreement was due to expire June 30, 1953.

• **Trouble starts**—Signs of trouble appeared early in April, when both sides began maneuvering to put themselves into position for bargaining on renewal of the agreement.

The labor group filed appropriate notices, under the Taft-Hartley law, of authorization to strike, and began discussions as to its demands. There had been some dissatisfaction with the agreement of a year ago over what some of the unions considered to be an inadequate escalation clause. That dissatisfaction—under particular fire from the carpenters—finally resulted in granting of a 15-cent hourly increase under the cost-of-living clause of the agreement. "Inequities" between rates paid to various trades also were a cause of contention.

• **Demands made**—As a result of these and other factors, the BTC presented the contractors' negotiating committee, headed by BTEA president Fred V. Driscoll, late in April with demands for increases which contractors said would amount to 60 cents an hour for most of the trades—an 18% increase for journeymen craftsmen and 25% for excavating laborers over the present scale.

The employers refused flatly to grant such an increase, on the ground that it would upset construction conditions in the city increase inflationary pressure, take the cost of construction out of the range of many buyers.

• **Agreement out**—Negotiations continued for several months on a poles-apart basis, finally came to a head last week in a cautiously worded statement that admitted that the collective agreement idea had been dropped by both sides.

Said the BTEA-BTC-approved statement: Both groups would recommend to their members that every effort be made to reach amicable agreements as soon as possible.

Both groups also said there would be no general work stoppage.

• **Ticklish situation**—Armed with this, Howard McSpedon, BTC president, went before representatives of 24 trades unions Monday, to get their approval of an agreement to continue the present conditions for another month, while negotiations continued on separate contracts.

Twenty of the unions okayed the extension, two asked for more time, and two—the carpenters and dockbuilders—voted against it. Meanwhile, employers also held a series of meetings during the day.

Toughest question for both sides, as the week began, was this:

If the 20 trades go along and extend the agreement and the carpenters remain adamant—what then? A point-blank question to a union official about respecting carpenter picket lines (should they be thrown up) got this answer:

"If the carpenters strike and are replaced by non-union men, you can be sure the picket lines will be respected."

Paducah area strikes ending under orders of AFL chiefs

The "unauthorized" walkout of American Federation of Labor painters at the strike-plagued atomic energy plant near Paducah, Ky., collapsed last week after pressure from the union's international representatives broke up the picket line, which was withdrawn when AFL officials (1) ordered construction workers to ignore any unauthorized picket line and return to their jobs, (2) directed the Paducah Building and Construction Trades Council to remove the pickets.

Richard Gray, president of the AFL building trades department in Washington, sent a message June 11 to the Paducah Building Trades Council. In it he ordered union construction workers to ignnore the painters' picket lines and return to their jobs.

Philadelphia carpenters' strike ends

Other major strikes end in Detroit, after five weeks, and in Wyoming, ending a three-week walkout

A 48-day strike by nearly 8,000 carpenters in the Philadelphia metropolitan area ended June 18 when contractors and the union accepted a government mediator's recommendation after a 12-hour conference.

The agreement resulted in all carpenters returning to the job, assured of a 20-cent hourly wage increase now plus an automatic 10-cent raise in May, 1954—with a two-year contract.

Settlement affected some 3,000 carpenters and sets a pattern for another 5,000 carpenters working in home building and other construction fields. Large construction jobs totaling more than $1 billion had been delayed.

The United Brotherhood of Carpenters, Metropolitan District Council, AFL, had been holding out for a one-year pact plus a 20-cent wage increase and other benefits. The General Contractors Association, representing 71 large construction contractors, had offered an 18-cent increase with a two-year contract.

Commissioner John R. Murray of the Federal Mediation and Conciliation Service stepped into the breach with the finally accepted proposals.

Fringe questions settled at the parley included understanding that:

- A foreman may not supervise more than 15 carpenters.
- A carpenter on his first day of work will not receive less than four hours pay.

Harry Taylor, secretary of the GCA, said that with the carpenters' dispute out of the way his group will turn attention to wage demands of other AFL unions: rod setters, structural iron workers, steamfitters, composition roofers and finishers.

Earlier, some 2,000 carpenters working on 200 housing units in the Philadelphia area returned to work after a 20-cent increase was accepted pending the settlement with the large contractors. These carpenters originally had asked for a 35-cent hourly pay hike plus other fringe and welfare benefits that would have amounted to 80 cents an hour. Contractor groups turned down the demands as excessive, having previously settled for a 7½-cent wage boost with 13 other building trades unions.

The entire tie-up of construction developed when members of other building trades unions negotiated new contracts and refused to cross picket lines set up by the striking carpenters.

Two other strikes ended:

- Detroit—An AFL carpenters strike that kept 14,000 carpenters and 1,100 contractors in Detroit and southeastern Michigan idle for five weeks, ended last week when building contractors agreed to a 12-cent-an-hour wage increase and a 3-cent-an-hour insurance contribution. The raise makes the carpenters' hourly rate $3.05 plus the 3-cent insurance payment.

The strike began on a hit or miss basis and ended with each side throwing bitter accusations back and forth.

Carpenters at first walked off some jobs but did not strike all contractors. In retaliation, the Associated General Contractors and the Builders Association of Metropolitan Detroit ordered members to lay off carpenters on all jobs.

The AFL painters, whose 4,000 members have been on strike since May 1, also ended their strike over the weekend. The painters accepted a 12½-cent-an-hour wage increase and an additional 2½ cents an hour to be paid into the union's health and welfare fund. The rate is now $2.75 an hour plus 10 cents in insurance benefits.

The AFL laborers union agreed to a 12½-cent-an-hour wage boost, bringing base rate up to $2.30. Their contract provides for a reopening on insurance benefits before Oct. 1.

- Wyoming—More than 1,000 building construction tradesmen at Casper, Wyo., returned to work June 15 under new wage agreements. They ended a general walkout three weeks ago that tied up $10.5-million worth of construction.

Carpenters were the last to sign during a series of craft-by-craft negotiations. They won an immediate 15-cent increase plus 10 cents more on Jan. 1. Former rate: $2.35 an hour.

Painters received 10¢ an hour, boosting their rate to $2.50.

Plumbers received a 10-cent-an-hour raise and four-year contract with an escalator clause gearing wages to the national cost-of-living index prepared by the federal government. The plumbers struck first in April, but there was not a general tie-up until the carpenters joined the walkout May 25. The 10-cent hike boosts the plumbers' rate to $2.90 an hour.

College-boy construction crew makes AFL unhappy

The job is an 11-day monolithic concrete pour for the Anderson Truck Terminal in Maumee, Ohio. But handling concrete for the erection of 20 connected grain silos—each 168 ft high—is one of the huskiest and most studious construction jobs on record. The buggy-pushers are college men, many of them athletes.

It seemed like a good idea to Harold Anderson, one of five partner-brothers in the firm when he decided to hire college boys for the concrete pouring job. His ad in student papers drew results in enlisting 225 workers.

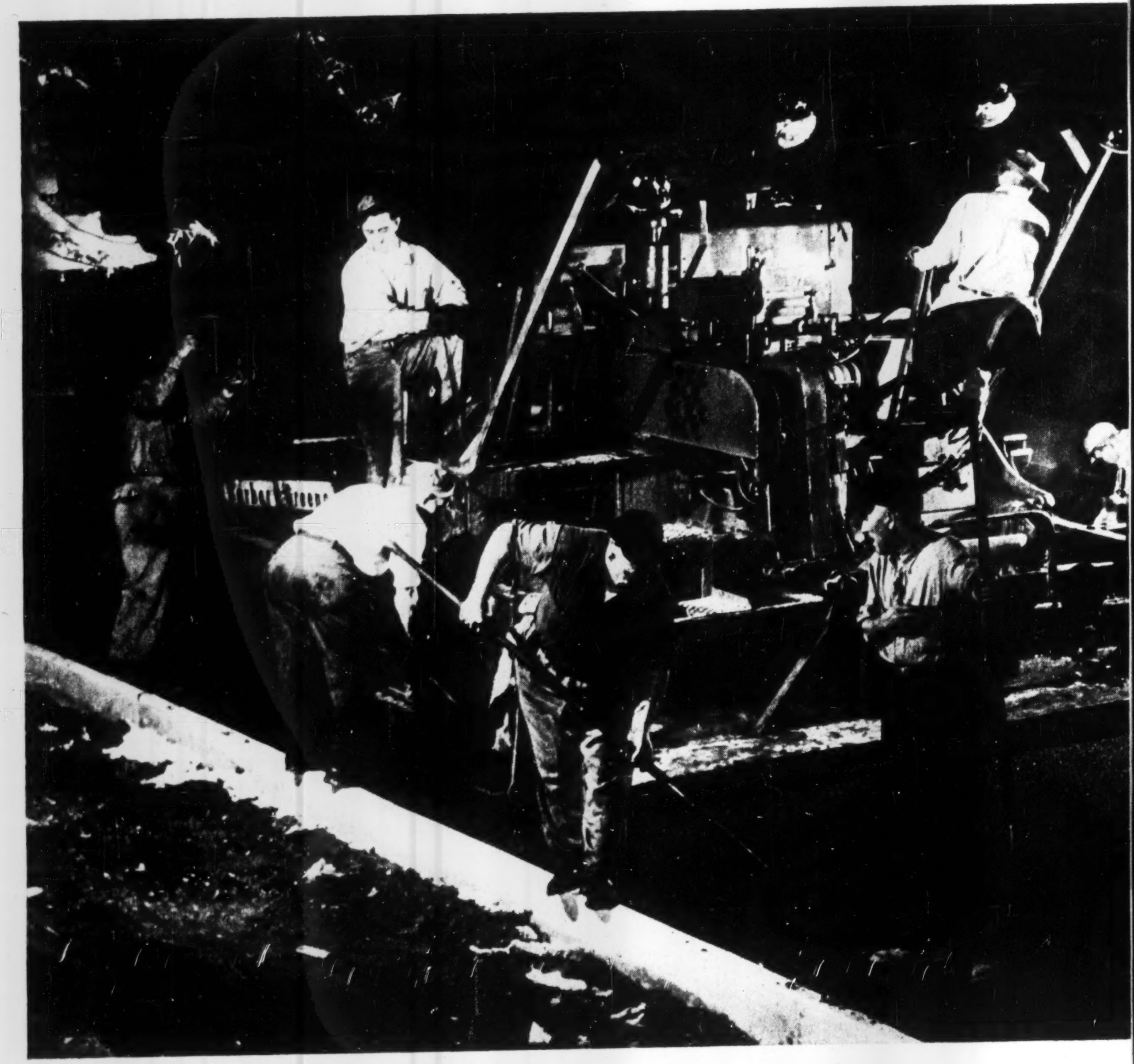
Then the Toledo AFL Building Trades Council entered the picture. Francis Voyer, council secretary, said: (1) 10,000 workers would be pulled off every city construction job and men placed around the Anderson project to stop use of non-union labor; (2) Anderson is depriving union labor of work by using students; (3) there would be no objection if the youths would receive regular union-scale pay.

Despite union warning, the ¾-of-an-acre building site was swarming with student-workers as the first shift began to pour on schedule June 15. No pickets were on the ground as work started.

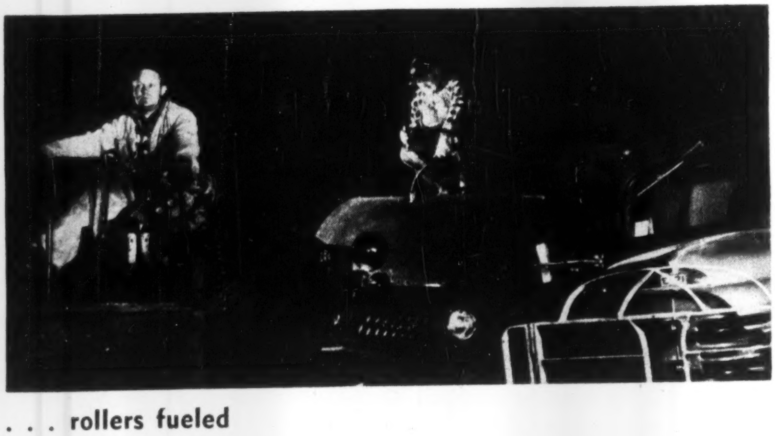
On June 18 settlement of the dispute came in three swift moves:

First, the Building Trades Council cancelled threats of a work holiday. Then the Andersons announced plans for another grain elevator project, this one to be built by a contractor using union labor. In return, union officials said that in view of the company's "cooperative attitude"—and the the "special nature" of the farm operations—there would be no picketing or other interference with present Maumee job.

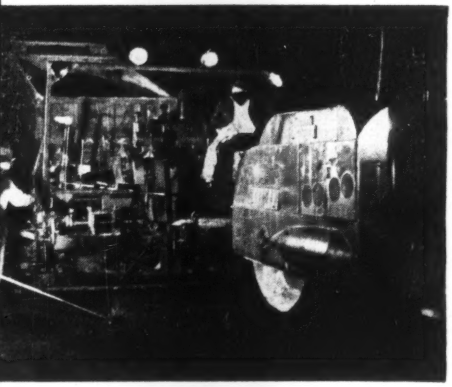
The students—working side by side with Anderson employees and some 50 locally recruited laborers—will get $237 apiece during the pour for 11 straight days of 12-hour shifts. Room and board on company property is free. Recreation facilities include a movie theater, swimming pool, two basketball courts. A "keep-in-shape" plan provides team sports supervised by Clair Dunn, football coach at the University of Toledo.



Equipment inspected



. . . rollers fueled



. . . work begins

Night work speeds repaving, avoids heavy traffic tieups

Contractor modernizing New York parkway averages 1½ miles-a-day using around-the-clock work schedule

Aging expressways throughout the nation are in need of repaving and modernization—and New York's Long Island State Park Commission has figured out a way to do it, without disrupting heavy traffic flow. The problem on Long Island's Northern State Parkway was typical. In the face of 60,000 vehicles a day—most of them carrying commuters—with 3,500 cars an hour moving in one direction during peak periods, the contractor had to place an asphalt surface on 6½ miles of this road without seriously disrupting the traffic. To get the work finished for summer travel to beaches and playgrounds, the Long Island State Park Commission specified an around-the-clock schedule—working between rush hours, doing most of the work at night.

The repaving was a part of an over-all plan to modernize the 25-year-old parkway from Glen Cove Road to the New York City line. The roadway was too narrow; there was no center mall to separate opposing traffic and no shoulders had been provided to accommodate disabled cars. Traffic had increased until a stopped vehicle could create a serious bottleneck as well as a traffic hazard.

First step, in 1950, was to build a concrete divider and improve access lanes. Head-on collisions—which had climbed steadily in number in post-war years—ended.

The second phase of the work began in 1952 with a 3½-ft widening of the existing concrete slab (providing two 12-ft lanes in each direction). Also, fills and cuts were widened to permit shoulder construction. Repaving was then ready to begin. Here's how the contractor, Nassau-Mascali Construction Corp., handled the job:

• Battle plan—Each morning at nine, the work area—the roadway for one direction—was closed off, after the hours of rush traffic to New York City. Remaining traffic was diverted, to parallel roads and the paving crews went to work until 4 pm when the roadway was reopened for the evening rush.

At 8:30 pm highway patrolmen again began diverting traffic to parallel roads. By 9 pm, the two lanes scheduled for repaving were cleared, and in the parking area next to the highway workmen carrying flashlights began preparing their equipment. With the precision of a well ordered battle plan, gas trucks pulled up to the rollers and asphalt pavers to fuel them for the night's work. Trucks loaded with hot mix rolled in from side roads and took their assigned places. Extra lamps mounted on the equipment threw circles of light around the rollers and pavers as they rumbled onto the roadway and jockeyed into position.

Moving in and out of the light, laborers with shovels and rakes followed the slow moving pavers to finish asphalt placement. Moving in behind the men, the rollers left a film of water that turned to vapor from the heat of the asphalt, and, caught by the lights, gave the entire scene a dramatic, almost stagelike, quality.

This work continued until six each morning when the newly surfaced lanes were reopened and the daily schedule began again.

While the daylight crew managed to lay about 500 tons of asphalt during its 6½-hour schedule, the night crew—paid overtime until midnight, and straight time from then until 6 am—put down about 900 to 1,000 tons during its 8½-hours work.

During the entire 6½ weeks of operations between April 6 to May 21, 40,000 tons of asphalt were laid. This new surface, placed over the old concrete, consists of a 1½-in. binder course and a 1-in. top course.

• Work ahead—Final major items of construction will be shoulder grading and landscaping. The shoulder will be a 10-ft level grass strip adjacent to the parkway curb. With other improvements, it will bring that section of the Northern State Parkway substantially up to the design standards of newer parkways in the New York City area. With the large flow of traffic over the parkway, a place to change tires or await repairs is a vital necessity in preventing accidents and avoiding congestion.

Following the construction of these shoulder areas, the contract calls for complete restoration of landscaping. The Long Island State Park Commission promises that within a year all signs of construction will have vanished.

OFFICES have fluorescent lighting paneled into noise-deadening acoustical ceilings. Windows are made of light-diffusing glass block in upper portion and clear glass block in lower part.

EGG-CRATE LOUVERED CEILING over packaging area eliminates glare from fluorescent light installation above louvers. Translucent glass block panel wall diffuses daylight.

Lighting, air conditioning emphasized in new plant

Working conditions including low-brightness ratio lighting and year-'round air conditioning are provided for employees at the new Mennen Company plant in Morristown, N. J. In the design, engineers decided on air conditioning for offices and packaging plant, and on making all windows in those areas of glass block.

The principal feature of the artificial lighting in the plant is 16,000 sq ft of egg-crate, louvered ceiling in the packaging area. The metal egg-crates are fastened for easy removal on metal frames hung below a white, plastered ceiling. Eight-foot long fluorescent lamps, installed on 32-in. centers above the egg-crate louvers, deliver 50 ft-c on the working floor. This is not an unusual intensity for a plant of this type, but here almost all possibility of glare is eliminated by the louvers.

Air-conditioning ducts and sprinklers are located above the egg-crate louvers, which collect little dust and can be taken down and washed mechanically once a year.

Daylight coming into this packaging area, through an opaque glass-block wall, is filtered by the block in such a way that there can be practically no glare. With prismatic surfaces, the block in the upper portion of this wall directs daylight upward to be diffused off the louvered ceiling. Glass block in the lower part of the wall diffuses light over the area. This 12-ft glass wall runs from the floor to the louvered ceiling.

Windows in the air-conditioned offices have these same prismatic glass blocks in their top sections to throw daylight up, to be diffused off the white acoustical ceilings. The bottom sections of these windows have clear glass block.

Air conditioning is installed throughout the packaging and office space. Steam power is used in absorption refrigeration units, since the plant boilers must operate all year around for the various manufacturing processes. When heat is readily available, this absorption system has a certain economic advantage over the usual expansion system of refrigeration, chiefly that it uses a smaller amount of power than the compressor of the expansion system. In the absorption system, the compressor is replaced by a vessel for absorbing the refrigerant in water and another vessel for driving off the refrigerant (by steam) in gaseous form from the water. Cooling ponds outside the Mennen plant provide water necessary for condensing the gaseous refrigerant.

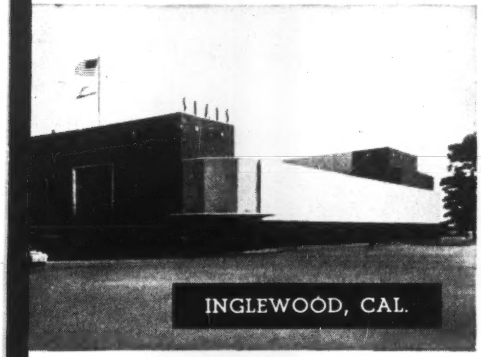
Above hung ceilings, high-velocity air ducts, appreciably smaller than the conventional heating ducts, are used to carry the cooled air in summer, or warmed air in winter, for the air-conditioning system. Some 130 thermostatic control units provide individual room control.

The plant provides some interesting structural features. The exterior copings around office windows are made of cast stone anchored into the exterior brickwork. Membrane flashing was used around the copings to avoid bending and soldering copper flashing around the angles and beams that frame the window opening.

The plant has a 5-in. thick floor slab laid on the ground. Shallow grade beams with spread footings under wall columns reach below the frostline to form the foundation for the outside walls. Steel columns in the structural frame rest on spread footings just below the slab.

The plant provides 246,000 sq ft of warehousing, shipping, manufacturing and office space. Engineers and architects for the building were A. M. Kinney Associates of Cincinnati; mechanical engineers were Richardson Engineering Co. George A. Fuller Co. of New York City was the general contractor.

RAYMOND SERVES SEARS ROEBUCK



Architect: Stiles O. Clements.
Contractor: L. E. Dixon Co.

CHARLESTON, W. VA.

Architect: The Ballinger Co.
Contractor: Wise Contracting Co., Inc.

COMPTON, CAL.

Architect: Stiles O. Clements.
Contractor: L. E. Dixon Co.

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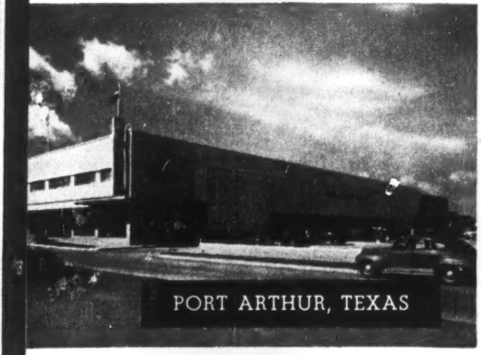

Architect & Engineer: George L. Dahl.

Architects: Shutze & Armistead. Engineer: Robert G. Lose. Contractor: A. Artley Co.

RICHMOND, VA.

Architect: The Ballinger Co.
Contractor: Wise Contracting Co., Inc.

SEARS
ASHVILLE, N. C.

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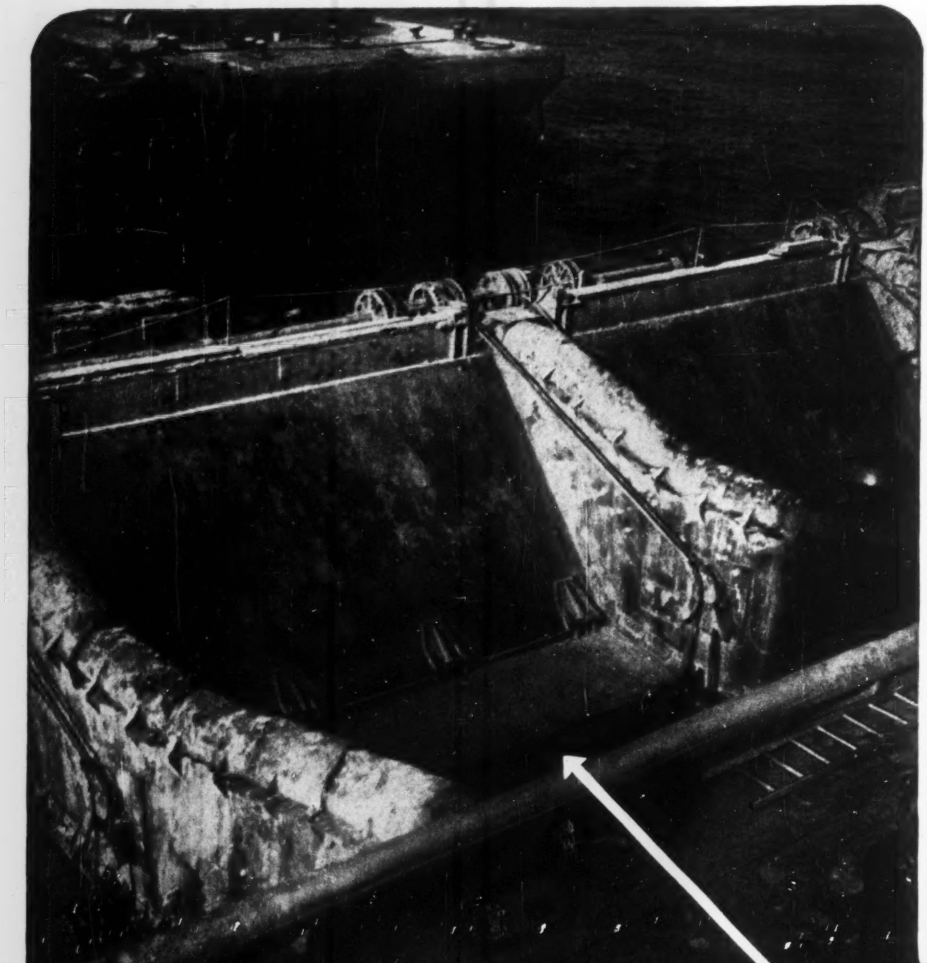
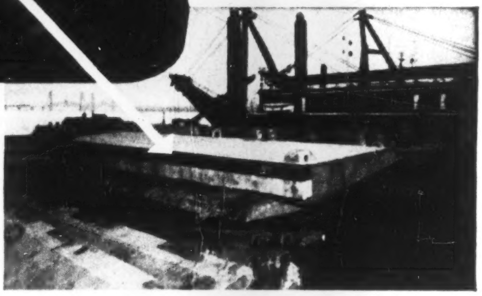


Barge Discharge Doors with bottom edges made of Neoprene rubber.



Black strip on this barge door is the Neoprene rubber edge. Length of edge is 23 feet, the thickness is 5½".

Rock, pipe, cinders and other refuse gave the wooden discharge doors on this barge a hard time ...wearing out their edges. When the doors closed on this hard debris, they often were splintered or broken.

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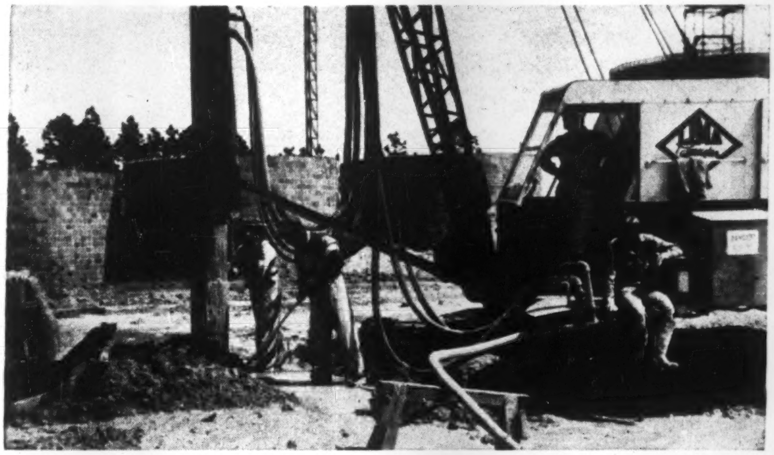


INTERNAL VIBRATION RIG—Bulldozer pushes in sand to maintain grade as loose strata consolidate. At Jesup, fines tended to wash out of ground. Man sitting on crane track regulates jet water.

Foundations for a Paper Mill—

Sand needn't be treacherous

A. Mystkowski
Civil Engineer, EBASCO Services, Inc.
New York, N. Y.

The ancient warning about building on sand still is an urgent one.

In nature, granular soils usually are dense, affording good bearing value for foundations. But occasionally they are loosely formed. And in some cases they have relative densities less than zero—in other words they wouldn't be able to retain their mass structure under even the lightest load.

Still more perplexing to the engineer are the results he gets when he tries to test sand for its bearing value. Relative density is the most reliable basis for foundation design, but obtaining undisturbed samples of sand has been a difficult task. The cheaper approach was to use a standard sampler, counting the blows per foot of penetration.

• Compaction by vibration—As a laboratory for granular foundation material, few sites will compare with that of the Rayonier, Inc., wood cellulose mill now being completed at Jesup, Ga. Sand and gravel that varied from minus 12% to plus 100% relative density was compacted into a uniform formation on which heavy buildings and vibrating machinery could be placed safely.

The technique for this compaction—internal vibration—was selected after consideration of three possible foundation treatments. The others were structural piles and extruded sand piles.

The method selected was described in "Wet vibration puts strength in sand" (ENR June 23, 1949, p. 60). The site covered in that story contained uniform sand, so that testing was not much of a problem.

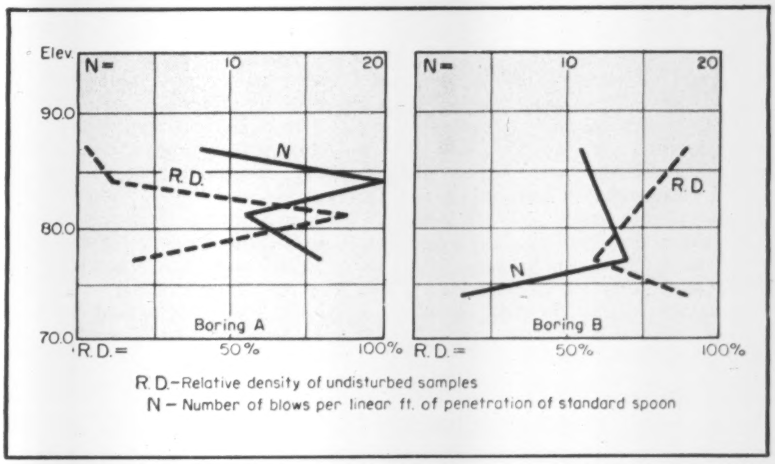
At Jesup, little correlation could be found between relative density of undisturbed samples and standard penetration tests. A comparison of the divergent and inconsistent tests is shown.

• Good samples—Fortunately, test techniques are improving. On this job, good undisturbed samples were obtained by pressing a valved sampling spoon into the formation, thus avoiding the disturbing vibratory effect of driving. For work below groundwater level, bore holes were kept open with bentonite driller's mud, which has a high specific gravity and holds the hole open. Moreover it does not dissipate itself into the surrounding formation or mix with ground water, so it is possible to take undisturbed samples from sand at any depth.

In test pits it was possible to take even better samples, by pressing a thin-walled tube into the pit bottom and carefully cutting it loose by hand. Test pit samples confirmed the dependability of undisturbed samples taken with bentonite mud from borings. Moreover, plate bearing tests in pits confirmed the results predicted on the basis of undisturbed samples.

• The Jesup site—The ground formation at Jesup consisted of 40-45 ft of fine and very fine sand over 10 to 20 ft of plastic clay; below that, firm sandy silt. Ground water was 16 ft below the surface. At 8 to 10 ft below grade was a layer of dense, slightly-cemented-while-dry, fine sand containing up to 19% particles passing No. 200 mesh. Layer thickness varied from 1 to 4 ft. Relative densities above this layer ranged from zero to 40%; beneath, they were from zero to 80%. A special condition existed in the center of the mill area: Just under the cemented layer, down to water level, there was uniform fine gravel with relative densities ranging from minus 12% to plus 50%.

It was evident that the upper layer of sand could support no more than a half ton per square foot of static pressure. The cemented layer was too thin to take directly imposed loads from deeper footings, and loose sand or gravel below would settle from vibrations caused by the heavy equipment. The main difficulty lay in density-difference encountered within



CONFLICTING TESTS—These comparative logs, which are typical of many taken from borings at Jesup, show remarkable divergence between sand test results obtained by different methods. Undisturbed samples give the true picture.

single layers at points as little as 20 ft apart. Obviously, abrupt differential settlements could be expected.

To overcome this condition, three alternative methods of foundation support were investigated: 1. Structural piles; 2. Extruded sand (Roman) piles; 3. Sand compaction to groundwater level by internal vibration.

• Rigid piles—The most costly approach was piles 75 ft long driven into the stiff silt. They would have carried all loads without appreciable settlement, but they would be required under more than half the floor area of buildings housing heavy machinery.

Thirty-foot piles, driven into dense sand below ground-water level, would eliminate settlement due to loose sand, but they would bring loads close to the soft clay, which would settle unevenly under pile clusters.

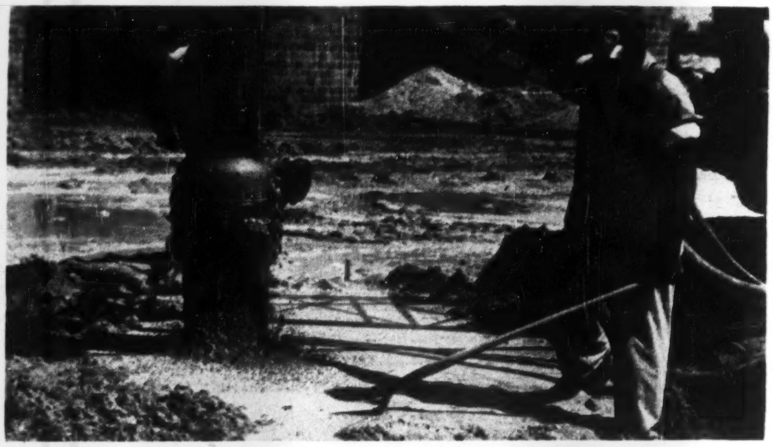
• Sand piles—The most practicable solution would be to compact the loose sand above the water table, then build spread footings as near as possible to the surface, so loads would be broadly distributed on the clay. This would minimize adequately both total and differential settlement. Such compaction could be achieved by either sand piles or internal vibration.

Sand piles are made by driving a mandrel to the desired depth, filling it with sand and withdrawing the mandrel while heavy ramming is applied to the new sand. Material displaced by the mandrel moves laterally, partly compacting the formation, and the new sand tends to push outward. This compaction is helped by the vibrations of driving and ramming.

But it was believed that varying densities of the formation would make it difficult to drive the mandrel and to establish the spacing that would assure reasonably uniform compaction. These objections could be overcome by internal vibration.

• Internal vibration—Called Vibroflotation, this method pre-settles or compacts the sand formation. The compaction device is like a large spud-type concrete vibrator, with water jets added. Suspended in leads, it burrows downward into sandy soil. The jet water saturates surrounding sand, placing it in optimum condition for consolidation. After the vibrator reaches the required depth, the final consolidation starts as the vibrator is withdrawn, one foot at a time. When the vibrating spud is fully retracted a cylinder 8-10 ft dia is compacted.

This method could be expected to establish a uniformly compacted layer to the depth chosen for insertion, with only negligible variations in density. A cost analysis of the three approaches also showed Vibroflotation to be the most economical. Building columns, some carrying 450 tons, could be set on spread footings of reasonable size.



SAND COMPACTION is accomplished with large vibrating spud hung in crane leads. Water aids spud penetration and increases its effectiveness.

It was decided to compact the complete areas under buildings, with low-load and high-load zones specified, depending on the type of use contemplated. The perimeter of compacted areas is six or seven feet outside building lines; where future extensions are expected this dimension is increased to 15 ft., lest future compaction disturb existing foundations.

This "area treatment" had a further advantage: it could be started as soon as the location and general nature of a building were known. Detail design—column and machinery locations—could be completed later.

Compaction specified for low-load zones was 85% average relative density, with a minimum, midway between insertion points, of 70%. Where severe vibrations would be imposed by heavy equipment, high-load treatment was called for. Minimum relative density was specified here at 85%; average relative density, 92.5%.

For low-load zones a triangular spacing of 8 ft. was found satisfactory. High-load spacing was triangular, at 6.5 ft. Continuous undisturbed sampling of treated areas maintained a check on results.

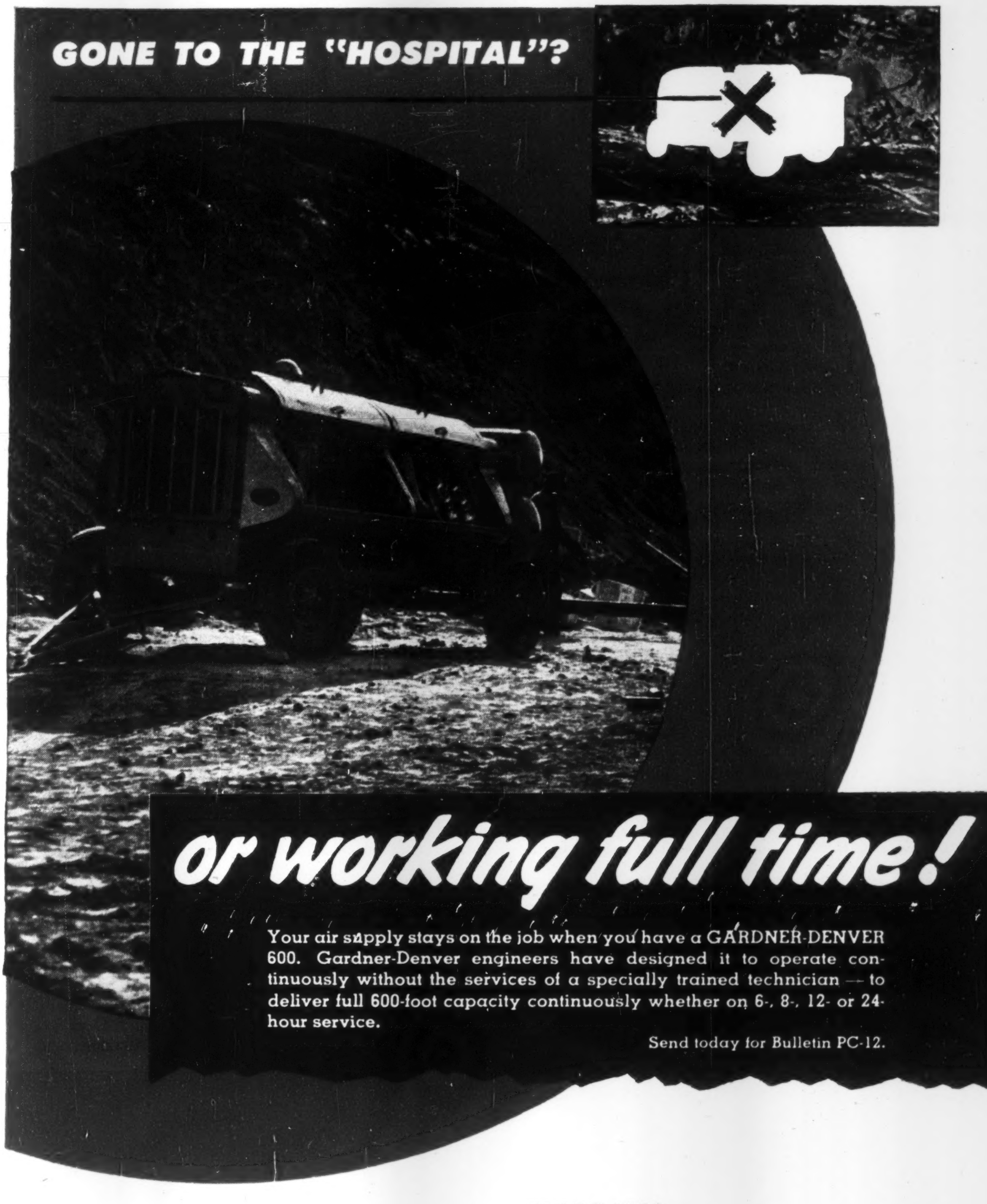
Although various field and laboratory investigations were called for, relative density tests were considered to be the only foolproof ones. It was practically impossible to find any correlation between relative density and the number of blows on standard penetration tests. Even in clean, uniform fine sand, without any fines passing through 200-mesh sieve, the recorded number of blows varied between 10 and 20, while relative density tests showed all densities above 75%. On the other hand, in some cases fine sand of relative density below 50% required over 30 blows. In layers with even a small clay content—2% to 5% —this inconsistency of the standard penetration tests was accentuated.

Compaction by internal vibration lasted five months. Two machines were working; insertion depth was 16 to 20 ft.; total area compacted was 175,300 sq ft.

The effect of this work could be seen immediately after compaction of areas had been finished. The surface of an area settled 7 to 13 in. indicating the magnitude of increased sand density.

When test pits were dug out it was noticed, on their vertical walls, that natural stratification of different sand layers practically disappeared. This may have been due to intermixing of the adjacent layers and to intrusion of material added during compaction. It also was noticed that fines tended to wash upward out of the insertion hole during treatment.

• Management—The mill was planned and designed jointly by the owner, Rayonier, Inc., and Ebasco Services Inc. Ebasco is also construction manager of the project. Ralph J. Kutchera is project manager and Russell J. Christesen is resident engineer. The writer was responsible for solution of the foundation problem, and for design, and guided all stages of the work except the independent checking of the soil, which was done by Greer and McClelland, consulting foundation engineers, Montclair, N. J., under the direction of H. K. Fairbanks, Ebasco's foundation engineer. Regular testing contractor was Law-Barrow-Agee Laboratories of Atlanta, Ga. G. A. Boughman handled the compaction work for Sergey Steuerman, inventor and patent-holder of Vibroflotation.



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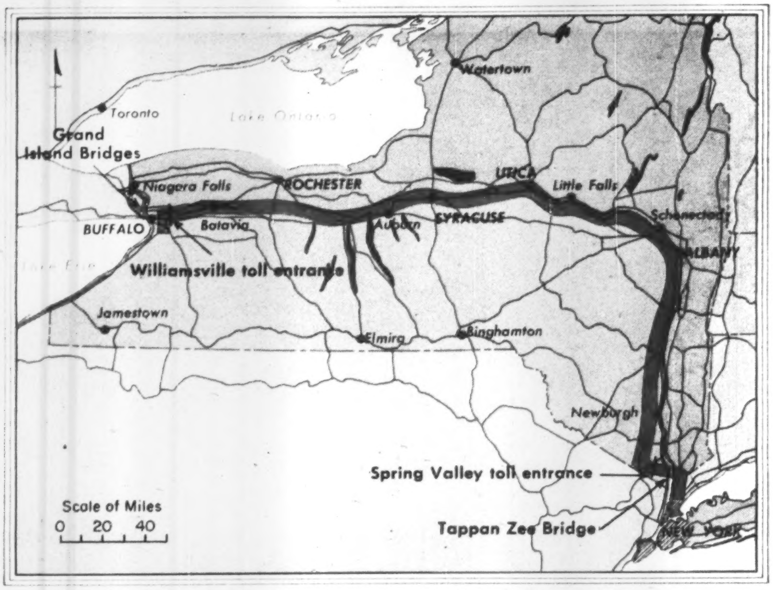
First of a series

New York Thruway's big year


Watertown
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BUFFALO
Batavia
Auburn
SYRACUSE
ALBANY
Lake Erie
Williamsville toll entrance
Jamestown
Elmira
Binghamton
Newburgh
Spring Valley toll entrance
Scale of Miles
0 20 40
Tappan Zee Bridge
NEW YORK

COMPLETION TARGETS: First thruway tolls will be collected early next winter on 150-mi Batavia-Utica section; entire 427-mile route will be open year later, with full toll control between Williamsville and Spring Valley.

Except for a few tantalizing stretches of completed four-lane divided roadway, the New York Thruway this summer is one continuous swath of construction, from Buffalo right down to the New York City line.

All of this work is directed by a handful of men who are doing their best to apply all the lessons learned by other state toll-road administrators—and to deliver a 427-mile route less than three years after the big push began. Those men are the employees of the New York Thruway Authority, located in Albany. Numbering about 65, the group is currently responsible for $330 million in construction.

About a fourth of the design and nearly half of the field management is performed by the New York State Department of Public Works, construction agent for the authority. The remainder of the design and field management is by 34 private firms. All major contracts have been awarded.

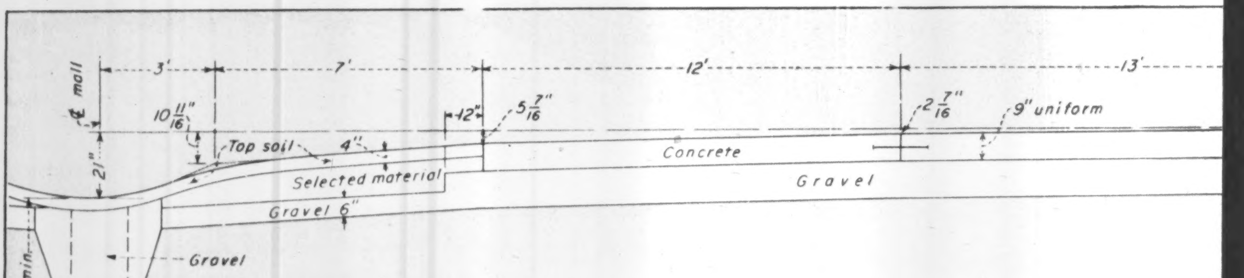
The main thruway, from Buffalo to New York, is scheduled to open at the end of 1954, coincident with completion of the route's biggest structure, across the Hudson River's Tappan Zee at Tarrytown. However, toll collection will begin sooner on the 150-mile stretch between Utica and Batavia. The authority says this section will be open by Dec. 31, 1953. Contractors look at their steel-delivery schedules and suggest the opening might be a month or so later.

• Was free road—Either way, it is a fast construction program—surprisingly so when one considers the original thruway project. Intended to be a free limited-access route, it was a part of the State Department of Public Works' long-range postwar program. Sections were to be built as regular highway funds became available. But the explosive pressures of traffic urged faster action—the kind that tolls would support.

When the New York Thruway Authority was established in 1950 it inherited a tentative location and four sections of thruway ($40-million worth) that had already been started by the Department of Public Works. It also took over the Grand Island bridges, between Buffalo and Niagara Falls.

• State's credit helps—Financing got under way with the aid of advances from the state and a loan backed by revenues from the Grand Island bridges. Then in November, 1951, New York voters approved a constitutional amendment placing the state's credit behind up to $500 million in thruway revenue bonds, in order to assure the lowest possible interest rate. This was the start of the big push.

Location and detail plans were turned out in sufficient quantity to get $136-million worth of contracts awarded during 1952—the first really big construction year. By Dec. 31, 1952, 55 milles had been completed


℄ mall
3'
7'
12'
13'
10 11/16"
21"
12"
5 7/16"
2 7/16"
9" uniform
Top soil
4"
Concrete
Selected material
Gravel
Gravel 6"
3'-9" min.
Gravel
12" pipe

EARTH-CUT HALF CROSS-SECTION—Six-lane thruway is being built only between New York City line and a point west and 180 more miles were under way. Since then weekly lettings have placed substantially all of the remaining 192 miles under contract.

• Thruway terrain—Station zero is at Buffalo. At first traversing relatively flat country, the location courses eastward on all-new right-of-way. In the zone north of the Finger Lakes the country rolls gently, then tends to flatten again before the thruway reaches Utica. At that point the route enters the Mohawk River valley, sticking close to the river with only one exception before it reaches Schenectady. The water-level passage is too narrow at Little Falls, so the thruway goes into the hills south of town. Farther on, tight places are overcome by re-locating the river's barge-canal channel—dredging it closer to the left bank, for instance, and using the spoil to build up right-of-way on the right bank.

By-passing Schenectady and Albany, the thruway rides south on high land west of the Hudson. It swings inland below Newburgh to miss the river's bottleneck at West Point, squeezes through a gap in the Ramapo Mountains, then goes east to the Tarrytown-Nyack bridge. In Westchester County, just above the New York City line, there also are tight clearances, due partly to topography and partly to land costs and prior use for rights-of-way.

In general, land acquisition is not a difficult problem for the thruway. In New York State a public agency acquires title to property by filing a plat with the county clerk. An appraiser sets a price, which is the basis for negotiation with the former owner of the property. Right-of-way width varies from 250 ft to 300 ft in most places. Agreement has been reached quickly in nearly all cases of acquisition for the thruway. Of course, a property-owner has recourse to the courts if he wants more money than the authority is willing to pay.

• Toll road problems—In common with other toll road agencies, the New York authority has the usual highway technical tasks of location and design, together with problems like the spacing of service and restaurant facilities, and toll collection.

Toll collection on the thruway will be complicated by the fact that New York registered passenger vehicles may use the facility on an annual permit basis. Non-permit vehicles will be charged in accordance with the distance they travel on each trip, as is the case on other major turnpikes. New toll-collection techniques, which are being developed to accommodate the resultant wide variety of transactions, will be discussed in a subsequent article.

• Concessions—Restaurants and service stations will be built by the authority and leased to concessionnaires, advantages being better control of facilities and lower financing costs. This policy, together with several others affecting concessions, was adopted by the authority after a survey of practices and experiences of other turnpike owners. There will be 27 so-called "service areas" between Buffalo and New York. Average interval will be 30 miles in each direction, with no facility directly across the thruway from another. (Such a location would facilitate "ticket swapping" —a well-known method of cheating on turnpikes—and it would require the acquisition of larger single parcels of land.)

A service area will take about ten acres. For safety it will be well back from the road, with long entry and departure lanes. As a vehicle enters, it first comes to the refreshment area, then to the automobile service area. Negotiations now are under way with prospective restaurant concessionnaires. Auto services are easier to shape up, so they will be arranged later. Eating facilities range from simple snack bars to full-fledged restaurants.

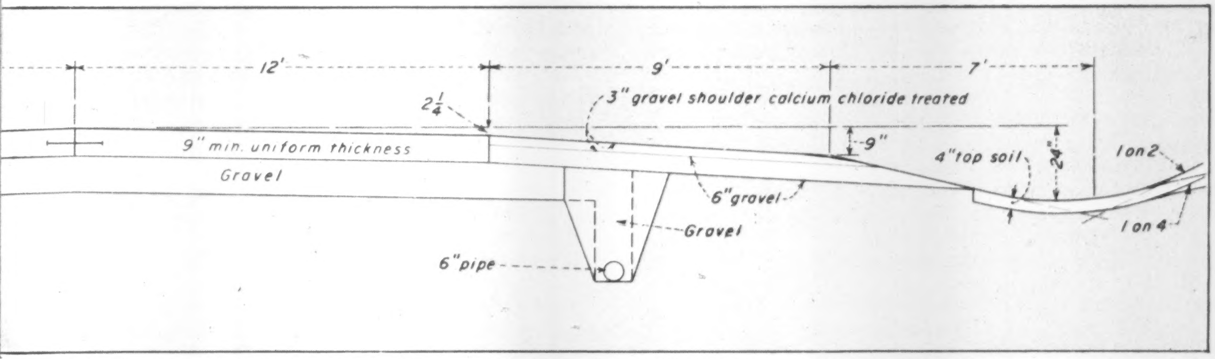
• Competition avoided—In determining the extent of services, the authority sought a minimum of competition with private business, consistent with the convenience and safety of travelers. Thus, petroleum products and minor repair facilities should be available at reasonable intervals, and a motorist should be able to stop periodically for rest and refreshment. More substantial services, like hotels, are considered to be beyond the scope of a turnpike operation. Partly to serve vehicles in distress between service areas, patrol and maintenance vehicles will be radio-equipped, so they can summon aid quickly.

Pulling off to the side of the road for a catnap will be discouraged, provision of parking space for this normal need of the turnpike driver being one of the reasons for the large acreage at each service area. The shoulder is for emergency stopping and passing.

• Engineering features—A typical earth-cut half cross-section for six-lane thruway is shown. On fills, shoulder width is 10 ft instead of 9 ft, increasing somewhat the safety margin for the driver who is forced off the pavement. Side slopes outside the shoulder range from 1 on 4 to 1 on 2, and natural lateral drainage of subgrade gravel is used, rather than the marginal underdrain shown for cut section.

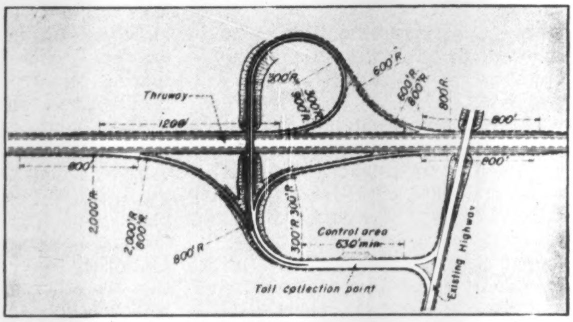
Six-lane thruway now is specified between the New York City line and a point west of the Tarrytown Bridge. Most of the remainder of the route is being built as a four-lane divided highway, but the minimum out-to-out dimension remains the same, to provide a sodded space in the mall where another 12-ft lane can be built in each direction. Minimum mall width in four-lane sections, then, is 44 ft instead of the 20 ft shown for six-lane. Where terrain makes wider malls economical, they are provided. Grades, too, may be varied between opposing roadways.

• No highway hypnosis—In addition to their location economies, such variations of design yield esthetic and safety benefits, the latter including


12'
9'
7'
2¼
3" gravel shoulder calcium chloride treated
9" min. uniform thickness
Gravel
9"
4" top soil
24"
1 on 2
6" gravel
Gravel
6" pipe
1 on 4

of the Tarrytown-Nyack Bridge. Most of the remainder is four-lane, with 12-ft lane nearest centerline omitted and covered with grass.

COMPLETED SECTION near Rochester, built to pre-toll-road designs, has clover-leaf interchange that will have to be changed to a toll-control type.



TOLL-CONTROL INTERCHANGE of the "trumpet" type runs traffic through a single collection station. Dimensions are curve radii and approach-lane lengths.

the reduction of headlight-glare hazards. Another safety policy calls for flat, sweeping curves in many sections where long stretches of tangent could be built. This is a device that has been discussed recently as a possible palliative for "highway hypnosis," which has been blamed for many accidents on straight stretches of high-speed roads.

Minimum curvature radius throughout most of the project is 2,800 ft; design speed is 70 mph above the Tarrytown-Nyack Bridge and 50 mph below. Maximum grade is 3%, with a minimum sight distance of 1,000 ft, both vertical and horizontal. Minimum tangent between curves is 500 ft plus the superelevation runout. Spirals are not used.

- **Bridges**—There will be about 400 bridges in the project. Most of these are overhead crossings by intersecting public roads, but they include the 2.8-mile Tarrytown-Nyack Bridge, as well as several significant crossings of major streams, ravines and railroads.

The Hudson River Bridge, which originally was proposed to have a tied-arch main span 1,112 ft long, will be a cantilever truss bridge with a somewhat longer span (ENR April 23, p. 25). Foundation construction now is well under way. Part of the piers feature an adaptation of the floating-box principle that was used for New York's revolutionary Pier 57 (ENR Aug. 14, 1952, p.30). This work for the Tarrytown-Nyack Bridge will be described in a subsequent article.

- **Deep girder**—Another notable piece of work will be the Seneca River crossing, northwest of Auburn, where two separate three-lane bridges will contain cantilevered deck girders that are 18 ft 6½ in. deep over supports. This depth is 1½ ft greater than the similar dimension on the unprecedented Hackensack and Passaic River crossings of the New Jersey Turnpike (ENR Jan. 17, 1952, p.30), but the span lengths and mid-section depths are significantly less: Seneca River spans are 175-270-175 ft; New Jersey spans, 275-375-275; Seneca center depth is 9 ft 8½ in.; New Jersey center depths, 11 ft 6 in.

As implied above, bridges carrying the thruway provide six lanes for traffic. The width of bridges over the thruway varies with their traffic, but the minimum width available to vehicles is 26 ft. Spans clear the full thruway half-section from shoulder to the mall centerline, where there is a center pier. Where ground will not support spread footings without settlement, cast-in-place concrete piles are specified.

- **Interchanges**—Bridges also are incorporated in most toll interchanges, a majority of which are of standard "trumpet" type. This interchange layout, indicating curvatures and approach-lane lengths, is illustrated. At three cross-routes carrying heavy volumes of traffic, double trumpets are used.

Between entrance and exit barriers at Williamsville (near Buffalo) and Spring Valley, just west of the Hudson River Bridge, there will be 35 toll-collection interchanges. In this zone the authority will charge on the basis of distance traveled. (There are 23 collection points on the 360-mi Pennsylvania Turnpike; 18 on the New Jersey Turnpike.) Outside this zone there will be four free interchanges at the Buffalo end and 14 free interchanges between Suffern and New York. However, on Tarrytown Bridge and at a point in Westchester County there will be barrier-type collection points, similar to those on Connecticut's Merritt Parkway.

The interchange construction problem is complicated somewhat by the fact that a few conventional cloverleaf and half-cloverleaf interchanges had been built on old thruway sections when the route still was intended to be a free road. At major highway crossings these are being converted to trumpet-type facilities.

- **Utilities relocation**—Another problem, this one common on today's express routes in congested areas, is the relocation of utilities (ENR Mar. 5, p.32). The New York Thruway Authority expects to spend between $8 million and $10 million on this item alone. Mostly the owners design relocations, incorporating thruway criteria as well as their own. Upon approval by the authority, the utility owners perform the work, which is subject to reimbursement by the authority. In some instances, however, it is more convenient for the authority to include parts of relocation work (excavations, conduits) in its construction contracts. An example of thruway criteria for relocation is the requirement that electric lines up to 13,000 volts cross the route underground. Higher voltages go overhead.

About 90 contracts have been awarded for thruway construction. They range from small landscaping or fencing jobs to the $29 million superstructure contract for the Tarrytown-Nyack Bridge (ENR April 23, 1953, p.25). Biggest road contract is a $17 million one for grading and paving 13 miles of thruway from Sloatsburg to Harriman. Jobs let in the early part of 1952 were mostly for grading, the paving contracts being let later, but this year grading and paving generally are lumped together.

- **Management**—Chairman of the New York Thruway Authority is Bertram D. Tallamy, who is also superintendent and formerly chief engineer of the New York State Department of Public Works. His successor in the latter position, J. B. McMorran, also is acting chief engineer of the thruway authority. Other key thruway men include Holden A. Evans, Jr., executive assistant to the chairman, Warren M. Wells, director of operations, Conrad H. Lang, deputy chief engineer, Edgar B. Shrope, principal engineer. Members of the authority, with Mr. Tallamy, are R. Burdell Bixby and David J. Martin.

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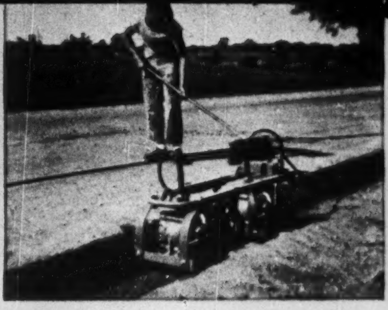

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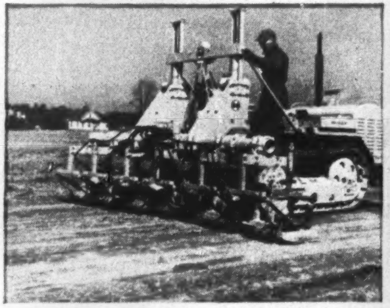

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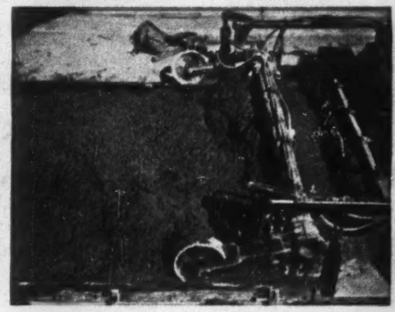

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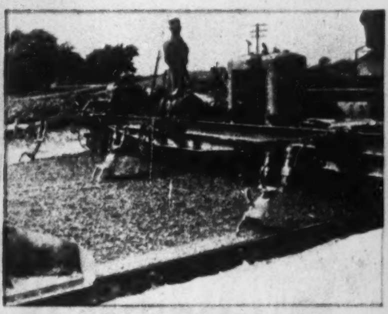

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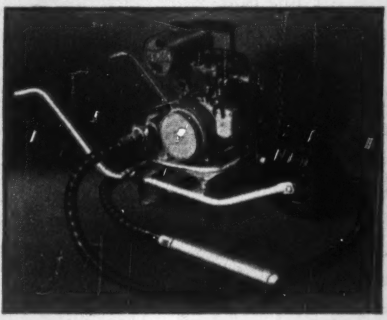

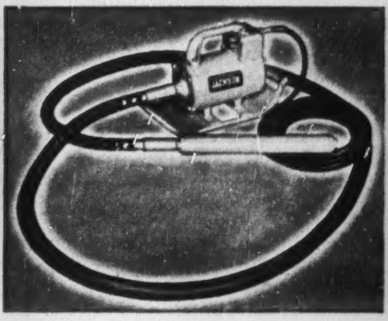

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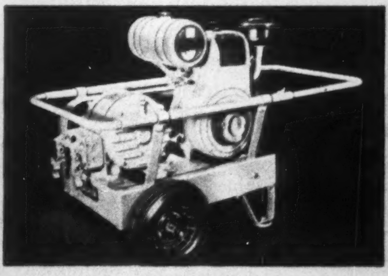

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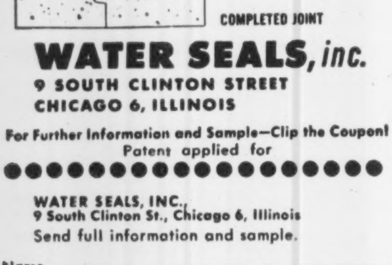
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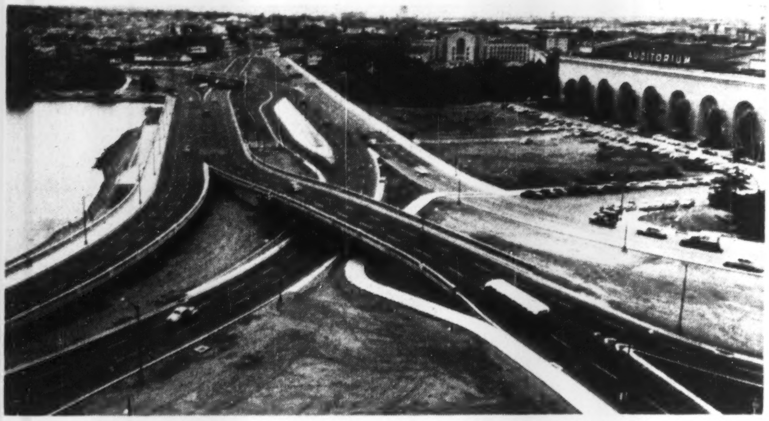


NETWORK of overpasses and underpasses will handle 90,000 vehicles daily.

$3 million and 25 years end traffic jam at Oakland dam

The $3-million solution to a 25-year-old traffic bottleneck in Oakland, Calif., was completed two weeks ago when the city officially accepted the 12th Street Dam Project.

Oakland long ago outgrew the four-lane road across the dam, an important thoroughfare between east Oakland and the business district. Before 1949, when construction was started on the first unit, some 56,000 cars were laboring across the dam daily. Capacity of new project, which has 9 lanes at its widest point, is 90,000 vehicles a day.

The dam, a ground area between the shore of Lake Merritt and the city auditorium, was scarcely affected by the project, except for some widening and extension of culverts. Principal elements in the completed job include the Frickstad Viaduct along the lake, the main westbound roadway; the main eastbound roadway; two overpasses and underpasses; and a center bus island. Also finished are three pedestrian underpasses: from the lake shore to the front of the court house at the western end; from the lake side to the city auditorium at the center of the dam, with access to a bus stop island; and from the lake shore to First Avenue and E. 12th Street at the eastern end. Conflicts of turning traffic were eliminated by grade separations at each end.

Completion of the job climaxed at least a quarter of a century of surveys, plans, city council arguments and counter-arguments, during which traffic increased, financial conditions changed, and preliminary plans were modified to meet the changes.

It was 1926 when Oakland's city fathers took a count and noted that some 39,000 cars were crossing the dam daily. That year the city council appropriated $135,000 for widening both sides of the dam, but later abandoned the work when studies showed E. 12th Street would have to be widened to make the project effective, a job the city couldn't afford.

Nothing was accomplished during the depression and war years, but in 1945 the way was cleared for concrete action when the voters approved a bond issue which included $1.8 million for the project. The city hired DeLeuw, Cather and Co. of Chicago and New York to make a study.

The completed project is similar to their plan, with modifications made by Walter N. Frickstad, former city engineer, and the present engineering staff headed by Charles A. Reed.

Total outlay for the bond-financed program amounted to some $3 million, including purchase of rights-of-way. The first portion, the Frickstad Viaduct, was started in 1949 and completed in 1950. It carried westbound traffic while work proceeded on the remainder. Contract for the viaduct was held by Charles MacClosky Co., San Francisco, for $300,000.

The second portion of the project was constructed under a $1,030,129-contract by Dan Caputo and Edward Keeble, San Jose, joint venture.

John A. Morin, Oakland's construction engineer and newly appointed city engineer, was in charge of the job, and Richard Piburn was resident engineer.

Spot assessments

He who gains pays as cities turn to special levies

The increasing demand by taxpayers for special improvements and the trend toward accepting special assessments and service charges in order to pay for them have enabled municipalities to obtain the cost of the improvement from those benefited without affecting the general treasury.

A survey of cities with over 5,000 population by the International City Managers' Assn. disclosed that 591 cities use special assessments for paving, 540 for sewers, 539 for curbs and gutters, and 527 for sidewalk construction. Such financing also is used by many cities to repave streets, extend water mains, install street lighting etc.

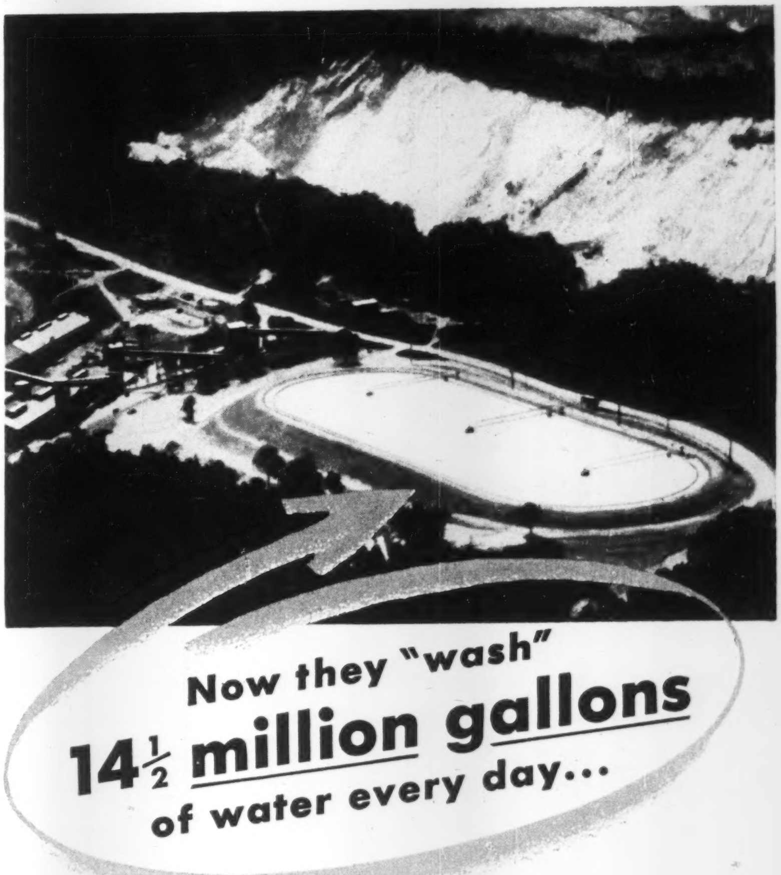
Cities use four methods of special assessment, according to the survey. 450 cities sell special assessment bonds, 220 use temporary loans from city funds, 143 require complete or partial advances by property owners, and 93 issue certificates or liens to the contractor for the work done. Of the cities surveyed, 300 selling bonds guarantee the issues, while the remaining municipalities secure their bonds with liens against the benefiting properties.

Special assessments were discussed also by municipal finance officers at their 47th annual conference in Miami recently. According to Henry P. Dowling, deputy auditor general of Detroit, special assessments have been used successfully for acquisition and landscaping of "green belts," land separating higher-zoned properties from less desirable railroad or industrial sites.

No taxes—more construction?

As an inducement to promote construction Ketchikan, Alaska, has come up with a policy of waiving taxes through building periods. Structures qualifying for the tax relief include hotels, stores, warehouses, factories and multi-family housing projects.

Ketchikan's program, according to City Attorney Victor P. Guns, will remove real and personal taxes during a construction period of not more than three years. Then, when a project is ready for occupancy or operation, the property will be put back on the tax rolls.



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MUNICIPAL

Dream of tourist magnet in Texas starts to jel

Connecting South Padre Island's glistening sand beaches to the mainland has been the dream of Texas residents for years. The idea is finally taking shape at Brownsville, where Cameron County officials are setting about to develop the southern section of the island into a year-around resort.

First step in the $10-million program is the completion—next February—of a concrete causeway joining the island to the Texas mainland at Port Isabel. Officials anticipate that the road will more than pay off its $2.25-million cost within a 10-year period; the first season, 1954, is expected to draw more than 350,000 carloads of toll-paying visitors.

Second move in the county program will be the development of three large park areas on the island at a cost estimated to top $7.5 million.

Giving south Texas a prosperity boom from Padre Island tourist and resort business is not a new plan. But it remained for Cameron County Commissioners Court to initiate the program in 1949. Since then, the project has required approval of five governmental agencies, passage of three special acts by the Texas legislature, holding of two county bond elections, and the creation of a water district for piping in from Port Isabel.

Popularity of Padre Island as a recreational center already has been demonstrated at the north end of the island. There, in 1950, a causeway was built to the Corpus Christi area.

Mayor joins opponents of Puget sewage outfall

Mayor Allen Pomeroy's request that Seattle's city council revise sewage treatment plans to include "complete treatment" drew open opposition recently. The streets and roads committee of the council balked at the changes, claiming that the installation of equipment required for the change is of questionable value.

The city's $25-million sewage disposal program, approved last year by the council and the state Pollution Control Commission calls for four treatment plants, the first to be constructed at Alki Point at an estimated cost of $770,000. The plant, as designed, would provide for communition, sedimentation, removal of grit and floating material, chlorination and dilution through the mixing of sludge and salt water, and ultimate discharge at a deep-water outfall in the sound.

Mayor Pomeroy, acting upon the recommendation of City Engineer W. E. Parker, and backed by many of the area's sports fishermen, seeks to eliminate the long outfall pipe by the addition of digesting tanks and drying facilities with ultimate disposal of reduced material as fertilizer. Since the plant as proposed has only tentative approval of the pollution commission—leaving the burden of proof on the city's doorstep pending results of tests during operation—the mayor believes that in the long run complete treatment is the cheapest.

Approval of the changes cited likely would affect the construction of the other proposed plants comprising the balance of the multi-million dollar project, but Parker argues that the advantage to be gained by a "closed plant" rather than dilution would be tremendous, outweighing by far the estimated $500,000 cost of the changes to all four plants.

Municipal briefs . . .

• **New Orleans wharf**—The New Orleans Dock Board has voted to proceed with the long-delayed building of a $2.5-million Thalia Street wharf. Stimulating the action was agreement on a site for the proposed Mississippi River Bridge (ENR June 4, p. 23).

• **Colorado reservoir funds**—A $2-million bond issue to triple the municipal water supply has been approved by Boulder taxpayers. The main expenditure will be $1.3 million for Twin Lakes reservoir, 7 mi northeast of Boulder. A pre-election survey by engineers showed that while the city has over 23,000 water users, it could supply only 17,000 persons in a dry year.

• **Arizona road program**—Three agencies—the county, the Federal Housing Authority and the Veteran's Administration—have joined forces to insure better subdivision paving in Maricopa County. Under the new setup, a code of minimum specifications will be worked out to improve the quality of residential streets.

No smoking in cigarette city

Adoption of a smoke-control ordinance and employment of a full-time engineer to curb the smoke problem in Raleigh, N. C., was recommended by a Citizens' Smoke Abatement Committee in that city. It was revealed that 53% of the city's plants were found emitting smoke, 38% were making smoke with excess density and 91% of all plants are potential smoke makers.

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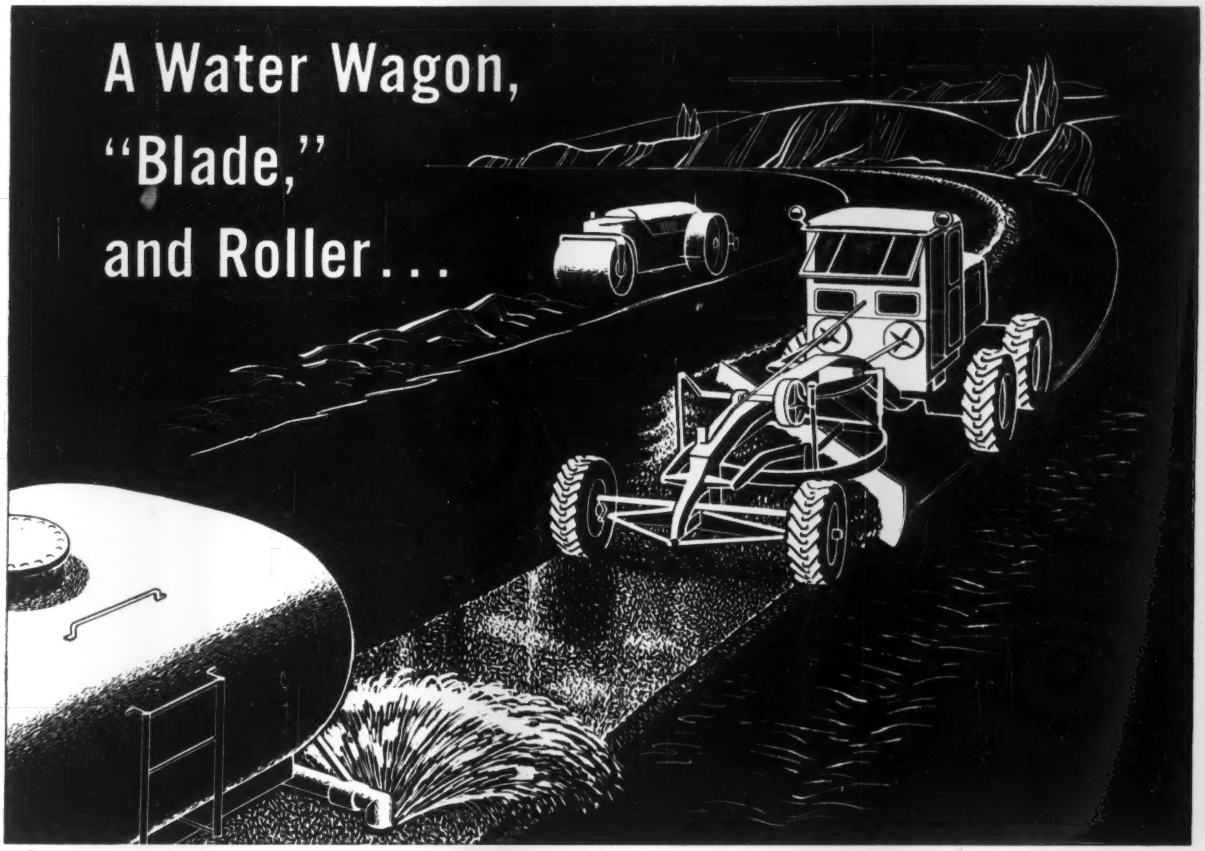

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FROM THE PACIFIC NORTHWEST come reports of how Versatile BITUMULS has helped to reduce costs on road construction.

Road-builders in that area now use WATER WAGONS to apply Bitumuls, mixed with water, to quarry waste or pit-run gravel in building a superior treated base.

The process known as "Diluted Bitumuls Emulsified Asphalt Base Treatment" is used only on the *top* or *leveling course* of the base construction. This "sets up" the lower courses of the base rock and binds the top course material so that traffic can use the road without raveling until it is ready for surfacing. Even then, the usual cutback prime is not needed.

The operations are simple. The Bitumuls is pumped into the water wagon. Turbulence in moving gives thorough mixing. The mixture is sprinkled liberally on the surface of the road during the normal spreading, blading and finishing operations.

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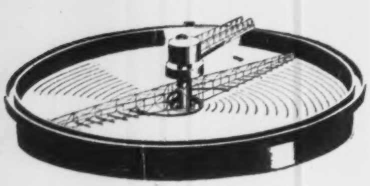
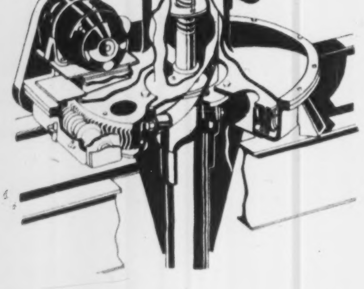


"Auto-Raise"
THICKENERS AND
CLARIFIERS



One of the distinctive features of Hardinge Thickeners is the "Auto-Raise" driving mechanism, which automatically lifts the scraper away from an overload or obstruction in the tank bottom—eliminating costly breakdowns and delays. Bulletin 31-D-55.

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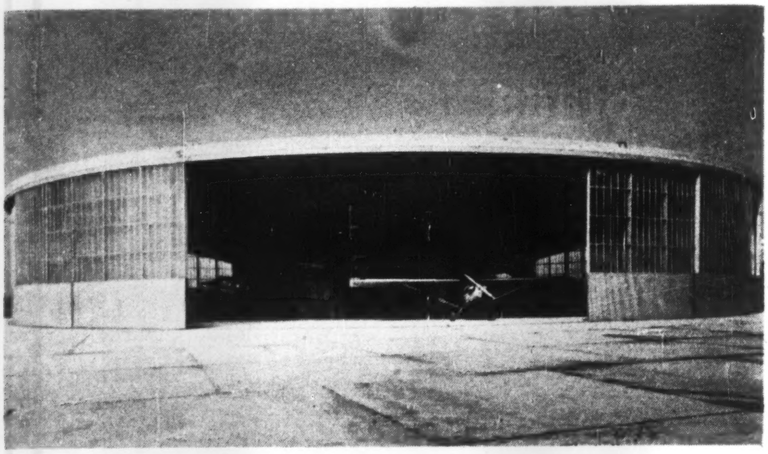
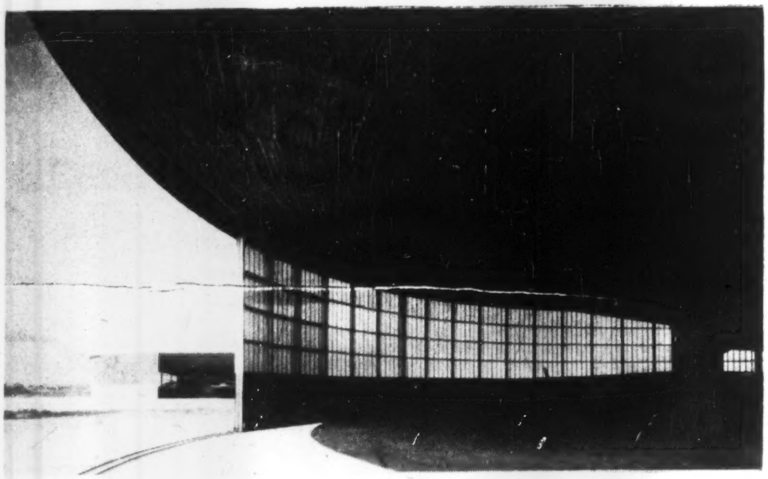


Circular concrete hangar roof . . .

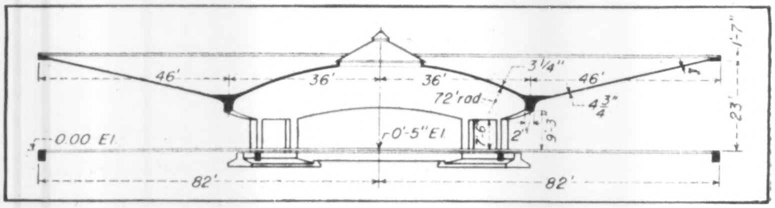


cantilevers 46 ft

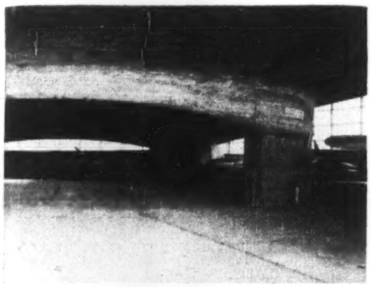
Two unique hangars of reinforced concrete have given satisfactory performance for more then four years at Belgium's civilian flying school—Grimbergen Airfield—near Brussels. The hangars are circular, 164 ft in diameter with bowl-shaped concrete roofs.

The hangar roofs consist of a 46-ft wide, 4¾ in. thick, annular overhang—inclined at 14 deg with the horizontal—cantilevered from a 72-ft dia central dome with a glazed cupola at its top.

The 3¼-in. thick concrete dome, a spherical segment, is joined to the annular overhang at intersection by a reinforced concrete beam, which, circular in plan, carries the dome and cantilevered overhang. The beam rests on four pedestals each of which is made up of two columns connected



THIN-SHELL, up-tilted concrete slab circling a central dome resting on pedestals, roofs concrete hangar at Grimbergen airfield, Belgium.



INSIDE HANGAR, planes can be parked at almost any point on the circular floor and still be immediately removable through any of the hangar's encircling glass doors.

by a short concrete wall. The circular beam is 5 ft 9 in. deep over the pedestals and 4 ft deep midway between pedestals. The pedestals rest on spread footings below the hangar floor slabs. These footings are connected to each other by shallow grade beams, which lend a continuity to the whole foundation.

- **Reinforcing**—The dome and the cantilevered annular overhang are reinforced radially and concentrically. Concentric reinforcing in the dome is in tension, and the radial reinforcing of the dome is in compression. The opposite situation is encountered in the annular cantilever. This overhanging cantilever is actually an inverted dome so that the radial reinforcing is in tension and the concentric reinforcing in the overhang is in compression.

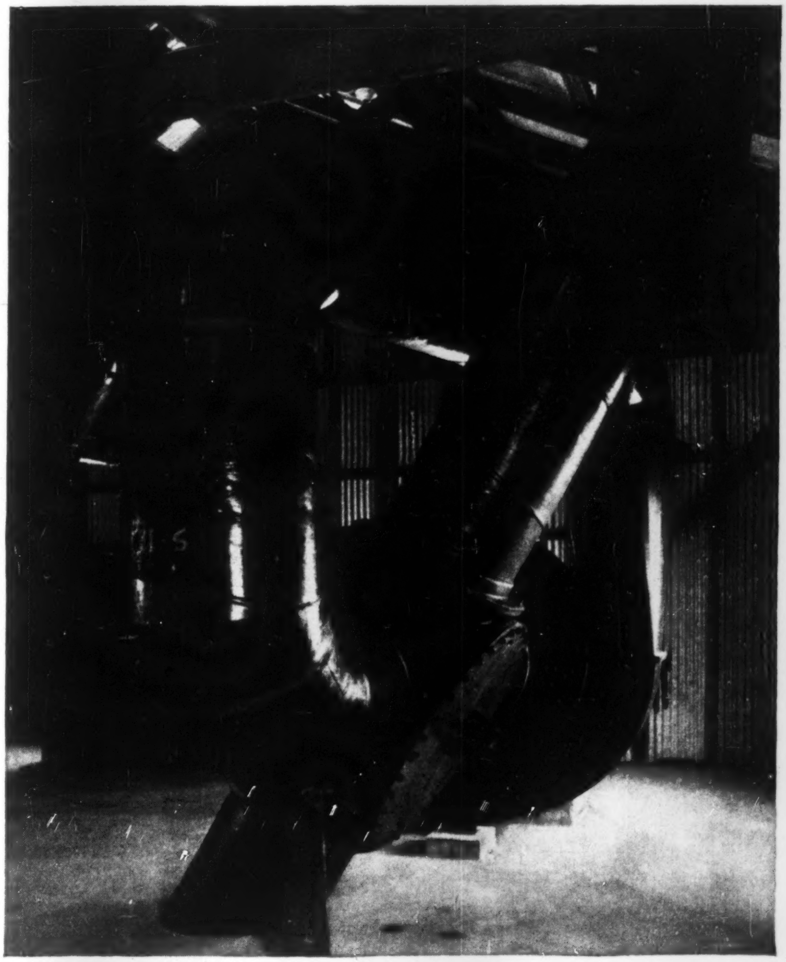
- **Forces**—The thrust, inwards, of the annular overhang is about 13 times greater than the outward thrust of the dome. The unbalanced thrust of the overhang on the beam connecting the overhang and dome is 11 tons per foot, pushing inward, so that in the horizontal plane the circular connecting beam is in compression.

The hangar has 17,100 sq ft of floor area enclosed with sliding, glass and aluminum doors on rails around the circumference of the hangar. These doors, extending from the floor slab to the underside of the edge of the overhang, run on alternate rails around the building. This system of alternate rails permits a maximum opening in the hangar of one half of its perimeter. Easy entrance and exit to and from all parts of the hangar provides no problems in the parking or taking out of aircraft.

The firm of Blaton-Aubert of Brussels, Belgium, designed the hangars in collaboration with M. Chaikes, Engineer, A.I.G.

IRON LUNGS

for Underground Construction



You breathe easier when you have air lines of NAYLOR lightweight pipe feeding fresh air and removing fumes and stale air from your underground operations. It's the safest and most practical vehicle for push-pull ventilating service. Bulletin No. 507 will give you the facts.

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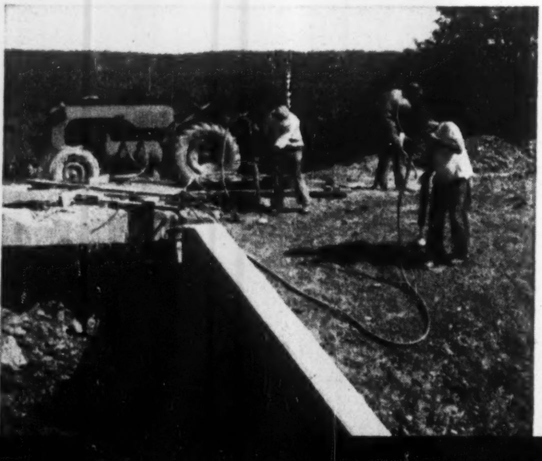
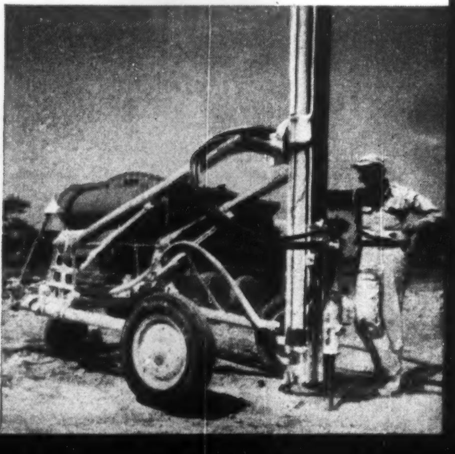
Tractair is a combination 35-hp tractor and 105-cfm compressor that takes air power anywhere. Here, it operates two Le Roi-CLEVELAND backfill tampers. Can also be used for breaking, drilling — and, when equipped with front-end loader, for digging, loading, lifting, backfilling, snow-plowing, etc. This way, Tractair cuts costs and saves you the extra expense of special equipment.



Le Roi-CLEVELAND DR30 Wagon Drill puts deep holes down faster, with less air, than any other wagon drill available. Uses 4" bore Le Roi-CLEVELAND Drifter. Has strong rotation, powerful hole-cleaning ability, and high drilling speed with big bits. For shallow holes, the lightweight Le Roi-CLEVELAND DR34 is available.



Get air jobs done faster!

with Le Roi Airmaster Compressors *and* Le Roi-CLEVELAND Air Tools

There are 9 sizes of Airmasters — and 14 models—ranging from 60 cfm to 600 cfm. A 600-cfm diesel unit is shown here. It's got the capacity to operate two deep-hole wagon drills with plenty of air to spare for other tools.

Every Airmaster is powered by a heavy-duty Le Roi engine designed especially for compressor service.

Le Roi-CLEVELAND Paving Breakers are available in sizes from 18 to 80 lbs. They really pack a wallop—make short work of breaking up the hardest concrete. Protective air cushion in front end assures long life. Well balanced for easy handling. Operators like them — and get more done.

YOU make the most of air power—speed your work and keep costs down — when you team up Le Roi Airmaster Compressors and Le Roi-CLEVELAND Air Tools. Here's why:

First of all, a Le Roi Airmaster gives you more air capacity for less money. You can get an Airmaster that's *exactly right* for size — one that's not too big or too little for the job to be done — one that lets you do the most work at the least cost. That's because Le Roi has the industry's widest range of sizes to choose from.

You're ahead other ways, too: Airmaster's full-pressure system delivers *all* the air you call for, *when* you call for it. Conservative rating of the Airmaster engine provides ample power reserve — for lower fuel consumption, less maintenance, lower operating costs. Magneto ignition gives you quick, easy starting — saves time — lets you get going faster.

Now, the best way to use the low-cost air produced by Airmaster is to let it power Le Roi-CLEVELAND Air Tools. They're built to really take punishment — and to break more pavement, dig more clay, drill more rock, tamp more fill.

Enjoy Le Roi air-power advantages. Use Le Roi Airmaster and Le Roi-CLEVELAND Air Tools on your next job — and watch costs drop. See your Le Roi distributor. Write for latest bulletins.

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Engines . . .

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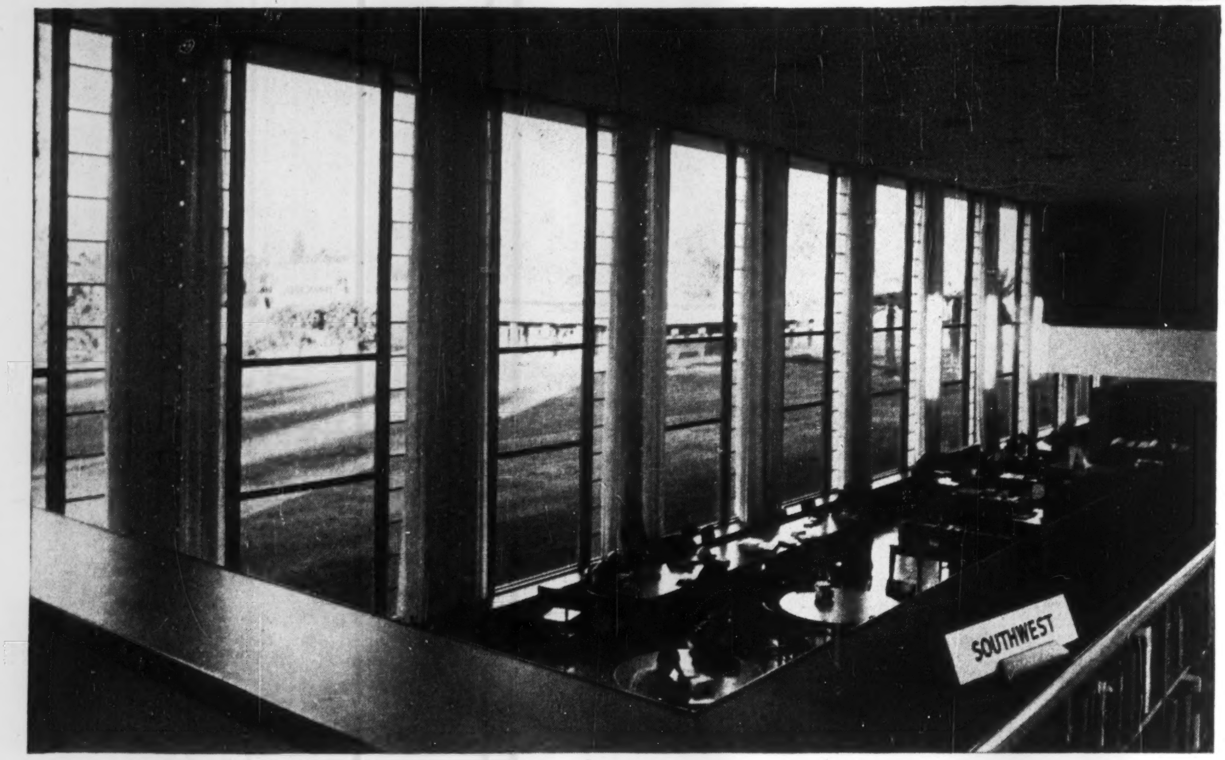
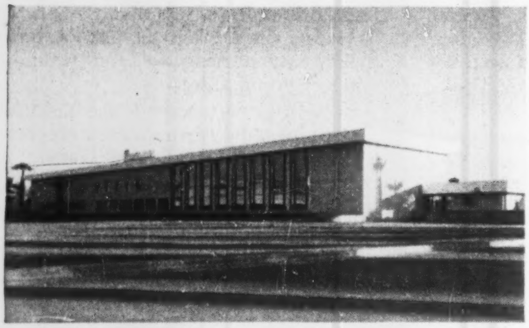


NEW PHOENIX LIBRARY features full floor-to-roof sweep of TRUSCON STEEL WINDOWS



Public Library, Phoenix, Arizona
Architects: Lescher and Mahoney, Phoenix, Arizona
Contractor: T. G. K. Construction Company

The reading room of this new public building is brilliantly daylighted through a wall of Truscon Fixed Intermediate Steel Windows. Sweeping upward two full stories, these Truscon windows reach from ground floor to roof to capture the Arizona sun.

Here, Truscon Intermediate Steel Windows are creatively applied to achieve contemporary design, superior lighting and long-lasting utility.

Truscon makes the windows that help inspire creative construction ideas. Architectural imagination—plus the extreme versatility made possible by Truscon's unmatched choice of window types and sizes—combine to inspire beautiful and functional structures. See details on all Truscon Metal Windows in Sweet's; or, write "window headquarters" for latest literature.

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MEN AND JOBS

JOHN M. FERRY—New special assistant.

Bell System engineer directs air base program

The New York Telephone Co.'s top construction engineer, John M. Ferry (picture), has been appointed Special Assistant for Installations to the Undersecretary of the Air Force, James Douglas, Jr. In this job, Ferry will supervise the air base program in the U.S. and overseas.

Ferry has been with the New York Telephone Co. since 1927, except for World War II service with the Corps of Engineers, when he was in charge of design and military construction in the northern Caribbean area. He is now on leave of absence from the Bell System.

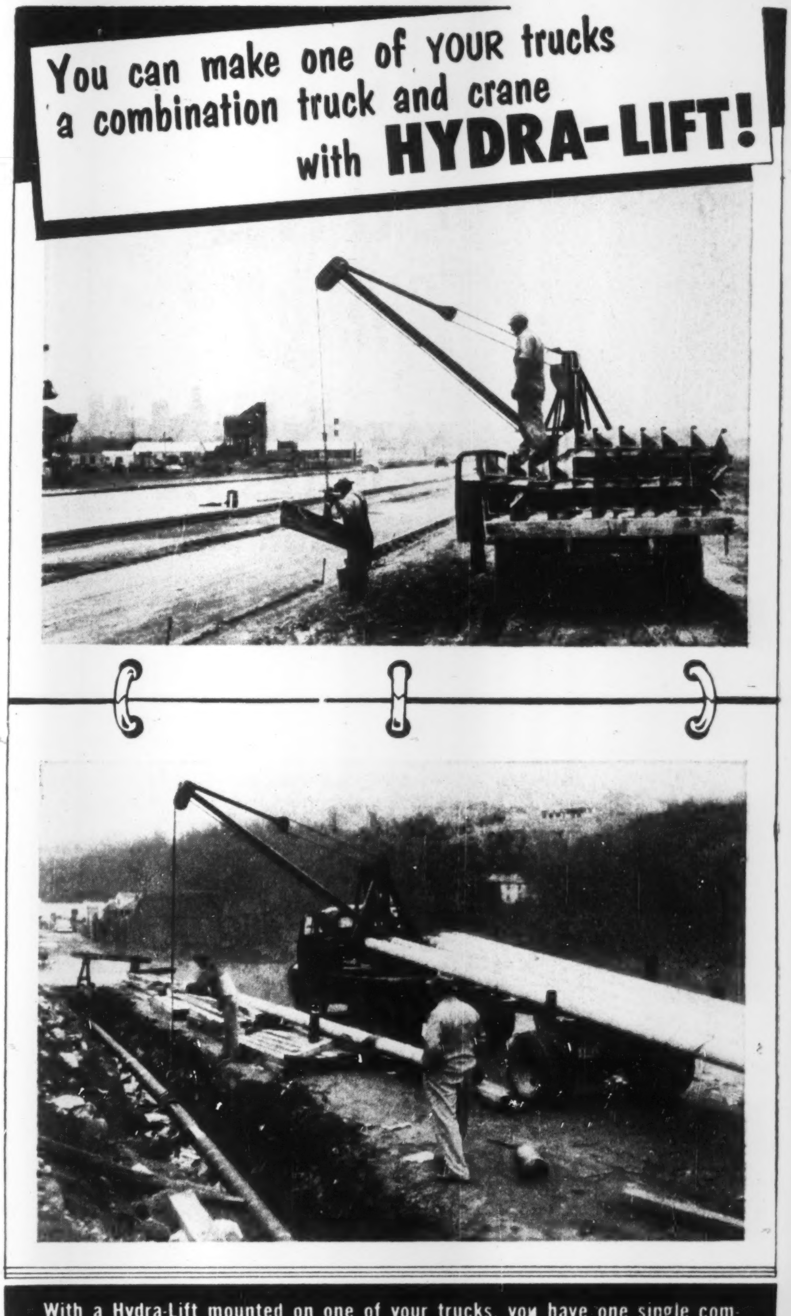
Fluor buys know how

There's more than one way of beating the shortage of engineers. Fluor Corp. of Canada, Ltd., subsidiary of Fluor Corp., Ltd., of Los Angeles, has just bought an interest in H. G. Acres & Co., consulting engineers of Niagara Falls, Ont.

By the terms of the deal, Fluor gets design services of Acres' 300 structural, mechanical, hydraulic and electric engineers for Fluor construction projects. It wants to take advantage of Acres' long experience in hydroelectric power engineering in Canada.

New AIA officers

As its Seattle convention ended last week (ENR June 25, p. 25), the American Institute of Architects elected the following new officers: President, Clair W. Ditchy; first vice-president, Norman J. Schlossman; second vice president, Howard Eichenbaum; secretary, George B. Cummings.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MEN AND JOBS

New slum clearance chief named for HHFA

One of the key jobs in the Housing and Home Finance Agency changed hands this week when James W. Follin succeeded Nathaniel S. Keith as Director of the Division of Slum Clearance and Urban Redevelopment. Follin has been Director of the Office of Contract Settlement in the General Services Administration.

Follin will run the program provided by the Housing Act of 1949 for aid to communities which do something about slums. HHFA has authority to make a total of $1 billion in loans and $500 million in grants to help cities acquire and clear slum areas, and make them available for better uses, primarily by private enterprise. About 250 communities are in the program, which has now passed through its organizing stage to the point where local operations have begun.

Follin served as a municipal and highway engineer before he started government service in 1933. He has since served with the Home Owners Loan Corp. and the Federal Home Loan Bank Board. He organized and directed through its initial phase the Construction Controls Division of the National Production Authority.

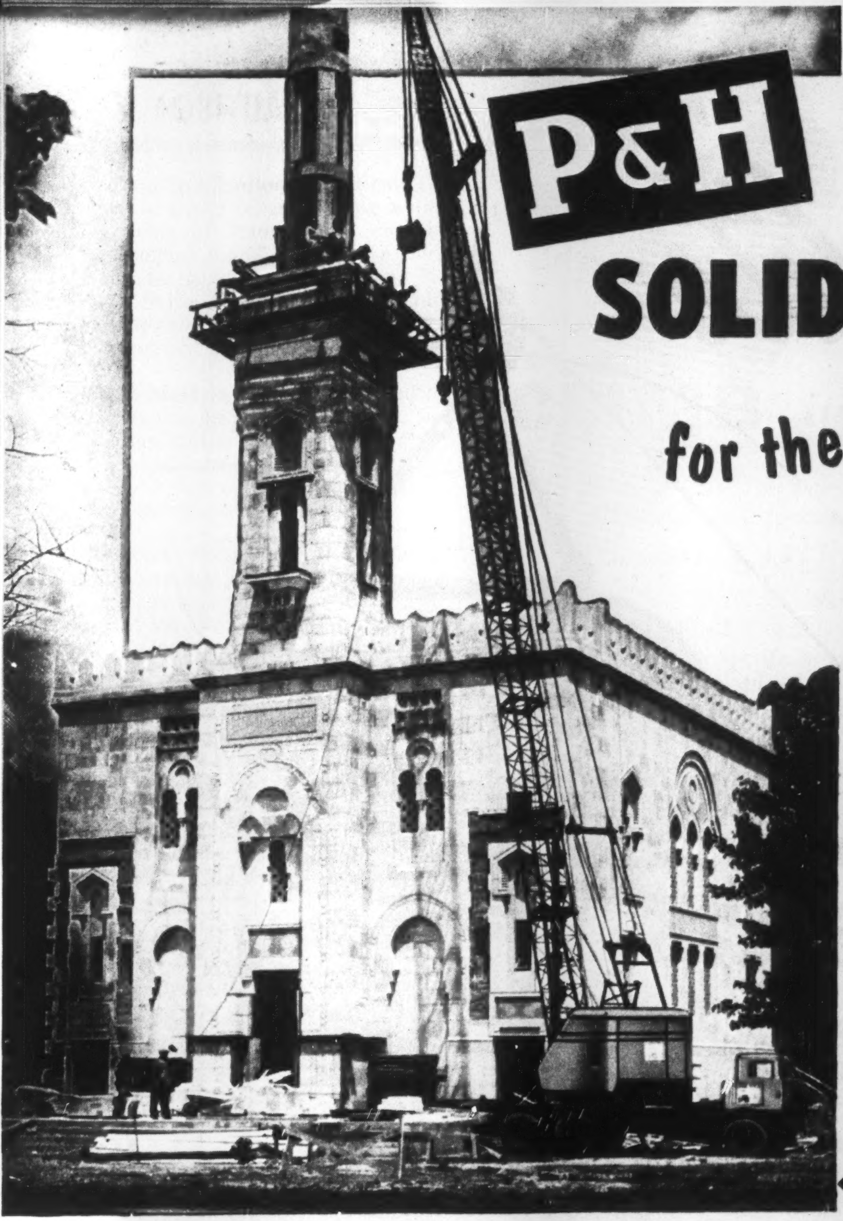
Careers . . .

• **Appointed**—**Lewis L. Strauss**, probably the only New York financier who is a rear admiral in the U.S. Naval Reserve, has been appointed Chairman of the Atomic Energy Commission . . . **Kurt F. Wendt**, since 1948 Associate Director of the Wisconsin Engineering Experiment Station has been appointed to the position of dean of the University of Wisconsin's College of Engineering.

• **Local government appointments**—**George P. Steinmetz**, chief engineer of the Wisconsin Public Service Commission, has been confirmed as Public Service Commissioner . . . **John A. Morin** will become city engineer of Oakland, Calif., succeeding **Charles A. Reed**, who is retiring

• **Retired**—**Walter C. Voss** will retire as head of the Massachusetts Institute of Technology's Department of Building Engineering and Construction.

• **Announcements**—Henry W. Taylor, consulting engineer, has consolidated his New York City and Lynbrook, N. Y. offices in an office at Freeport, N. Y.



P&H Model 255A Truck Crane hoists a 2½ ton block, with 90 foot boom and 30 foot jib. This mosque, in Washington, D.C., is the first ever built in the U.S.

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Greater Stability is no idle boast with P&H Truck Cranes. Size for size, around the full 360° of operation, no P&H Truck Crane has ever been outlifted. This ability to put more on the hook means extra safety, extra capacity, extra profit for you. Add to that the smooth hydraulic control that lets you place loads precisely where you want them — dual power suited exactly to the tasks of travel and work — and you have the reasons why contractors are showing a marked preference for P&H. Better double-check now. Ask for literature.

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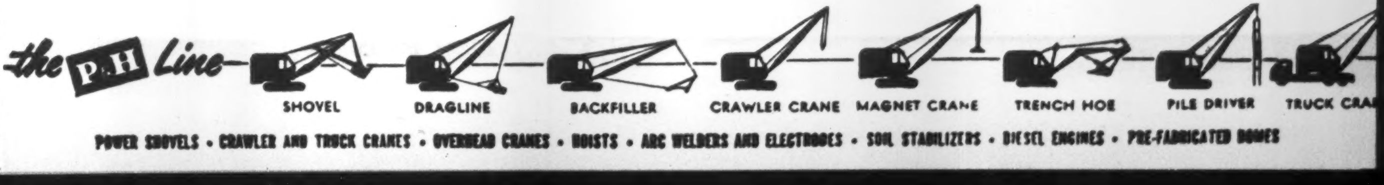

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MANSFIELD – LOUISIANA

OBITUARIES

William H. Chorlton, 71, retired professor of structural engineering at the University of Pennsylvania, died in Philadelphia June 21. He was a 1902 Pennsylvania graduate. For years he was with the American Bridge Co. and participated in the design of a number of important bridges here and abroad.

Joseph McHale, 60, superintendent of John Booth, Inc., Carbondale, Pa., for 30 years, and a well-known road engineer, died June 4. He had supervised much of the road construction in the Scranton area.

Drayton C. Harrison, 36, of Baltimore, Md., president of the Salem General Equipment Co., Inc., of Salem, Va., and of the General Supply & Equipment Co., Baltimore, died recently. He was a graduate of Cornell.

Clinton Carter Barker, 67, of Swampscott, Mass., Essex County engineer, died at Salem on June 5. He attended the Massachusetts Institute of Technology from 1905 to 1909. He then joined the Essex County engineering department and took over the county engineer's duties upon the retirement of his predecessor in 1942. He was connected with such projects as the Lawrence-Methuen highway, Pavilion Beach Parkway in Gloucester, and the studies for the location and design of the Annisquam River bridge.

Erling Erickson, city engineer of Riverton, Wyo., died in Denver, Colo., June 7. He had also been city engineer of Cody, Wy.

Spencer Miller, Sr., 94, who perfected the overhead cableway system used in construction of Gatun Locks, Panama Canal, and extensively applied in construction of Hoover Dam and other dams, died June 17 in Ft. Myers, Fla.

Otto F. Yount, 73, of Hickory, N. C., retired bridge construction superintendent for the North Carolina Highway Department, died June 18. He was with the Highway Department from 1916 until his retirement in 1949 and in 1947 was awarded the Highway Commission's annual D. B. McCrary Award for outstanding work. Among other projects he supervised were the construction of the Trent and Neuse River bridges at New Bern, the addition of the two top stories to the old State Highway Building in Raleigh and the old equipment depot at Raleigh. For several years he was superintendent of roads at Edgecombe County, N. C.

Give your employees another safety plus — install Hendrick Shur-Site Treads for stairs and fire escapes. You cut down accident rates and improve working conditions with Hendrick treads because they afford a non-slipping, level walking surface — have 90% open area, do not obstruct light and ventilation.

CLIMB *in confidence . . .*

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Ready to bolt directly to stair stringers, they're furnished in standard sizes or in special widths and lengths to meet specific requirements. For more complete data write Hendrick direct.

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CONSTRUCTION REPORTS

Bids Asked—Low Bidders—Contracts Awarded—First Section—

Compiled by Business News Department—Engineering News-Record, 330 W. 42nd St., New York 36, N. Y., ELSIE EAVES, Manager
J. A. MAHONEY, M. O. WETZEL, L. M. WINISKI, M. E. SCIORRA, F. S. DEMBEK, Reports.
J. H. WEBBER, M. R. ROESSLER, E. R. HUBER, Statistics.

NEW ENGLAND

BIDS ASKED—HEAVY CONSTRUCTION

▲ **Conn., New London**—HOUSING—B.A. 7/15—City Housing Auth., 97 Laurel Dr., MR-48 moderate rental housing. Plans deposit $50. CD 5/5, under LB.

HEAVY CONSTRUCTION

LOW BIDS AND CONTRACTS

▲† **John A. Volpe Constr. Co.**, 54 Eastern Ave., Malden, Mass. CA. **$2,026,144.** constr. seven multi-purpose hangars, Limestone Air Force Base, Eng-19-016-53-91, LIMESTONE, ME. U. S. Eng., 857 Commonwealth Ave., Boston, Mass. Bids June 11, awarded June 16. CD 6/16, under LB.

BUILDINGS

LOW BIDS AND CONTRACTS

▲ **Davison Constr. Co.**, 1306 A Elm St., Manchester, N. H., LB. **$2,852,000,** HOSPITAL addns., alterations, Pleasant St., CONCORD, N. H. Concord Hospital, Concord, N. H. Bids June 16. CD 5/26.

John Capobianco, 44 School St., Boston, Mass. LB. **$948,000.** HOSPITAL addn., WORCESTER, MASS. Hahnemann Hospital, 281 Lincoln St., Worcester, Mass. Bids June 18. CD 6/9.

MIDDLE ATLANTIC

HEAVY CONSTRUCTION

LOW BIDS AND CONTRACTS

▲ **NEW JERSEY**—N. J. Hy. Auth., State Hy. Office Bldg., 1035 Parkway Ave., Trenton,

Union Bldg. & Constr. Corp., 631 Main Ave., Passaic, N. J., LB, **$1,228,360.** Contract 71, bridges on Garden State Parkway at N. Green St. Extension, State Rd., relocation E. Greenbush Rd. and Amasa's Landing Rd. Egg Harbor and Bass River Twps., Ocean and Burlington Counties; LB **$814,512,** Contract 72, bridges, grading, drainage, paving at Chestnut Neck Interchange, Clark's Landing Rd., English Creek Rd. and Jimmy Leeds Rd. for Garden State Parkway, Galloway Twp. and Port Republic, Atlantic Co.;

J. E. Chapman & Son, Inc., 1303 N. Broad St., Hillside, N. J., LB, **$1,513,951,** Contract 43, bridges on Garden State Parkway, at Rte. 34, Route 38 Hurlys' Rd., and Farmingdale-Belmar Rd., Wall Twp., Monmouth Co., Bids June 18, CD 6/3;

Poirier & McLane Corp., 33 W. 42 St., New York, N. Y. LB, **$1,740,792,** Contract 42, bridges on Garden State Parkway, at Schoolhouse Rd., Shark River Rte. 33 and Route 66, Wall Twp. and New Shrewsbury, Monmouth Co. Bids June 18. CD 6/17, under LB.

▲ **PENNSYLVANIA**—State Hy. Dpt., North Office Bldg., State Capitol, Harrisburg,

Donald B. Stabler, 635 Lucknow Lane, Harrisburg, Pa. LB. **$1,323,560.** wid'n. 43,772 ft. existing road with crushed aggregate base variable in width; bit. surf. T.R. 309 const. I-beam bridge, Dorrance, Butler and Wright Twps., Luzerne Co.;

New Enterprise Stone & Lime Co., Inc., New Enterprise, Pa. LB. **$77,120.** constr. 1,567 ft. c. conc. bit. surf. L.R. 07040 (2), Blair Co.;

B. B. Constr. Co., Philipsburg, Pa. LB. **$165,216.** wid'n. 9,720 ft. road with crushed rock aggregate base, variable in width, bit. surf. T.R. 322, Clearfield Co.;

Rogers Constr. Co., R.D., Bell Mountain, Scranton, Pa. LB. **$68,606.** constr. 3,770 ft. crushed aggregate base with bit. surf. 22 ft. wide T.R. 348, Lackawanna Co.;

Ralph V. Daniels & Troutman Bros., Inc., Camp Hill, Pa. LB. **$237,525.** wid'n. overlay 22,097 ft. existing pavement with crushed stone base, bit. surf. 22 ft. wide 2 rein.-con. bridges T.R. 322, Lebanon Co.;

Hempt Brothers, R.D. 1, Camp Hill, Pa. LB. **$128,972.** wid'n. 21,641 ft. existing road with crushed stone base variable in width, bit. surf. T.R. 11, Perry Co.;

D. T. Connelly, 475 Allison Ave., Wash., Pa. LB. **$250,746.** wid'n. overlay 12,805 ft. road with crushed aggregate base bit. surf. 25 ft. wide, L.R. 62004, Washington Co. Bids June 18. CD 5/25.

BUILDINGS

LOW BIDS AND CONTRACTS

▲ **Marlyn Manor & Development, Inc.**, 1503 Greenwood Ave., Camden, N. J., Separate Contracts, **$1,300,000,** RESIDENTIAL DEVELOPMENT, Maryland and Hurst Aves., RIO GRANDE, N. J. Lester H. Weckesser, Wallworth Park Apartments, Haddonfield, N. J., archt.

▲ **Paul S. Vollrath**, Glenside, Pa. Separate Contracts. **$1,500,000.** SHOPPING CENTER, incl. 15 or 20 stores, Keswich Rd., GLENSIDE, PA.

▲ **Girard Constr. Co.**, County Bldg., Media, Pa. Separate Contracts. **$2,400,000.** RESIDENTIAL DEVELOPMENT, Moore and Providence Rds., MEDIA, PA. Jack Swiverman, 405 Market St., Chester, Pa., archt.

▲ **McCloskey & Co.**, 1620 W. Thompson St., Phila., Pa. CA **$2,000,000.** TERMINAL and OFFICES, 30 St. south of Walnut St., PHILA., PA. Pennsylvania R. R., LP. Struble, ch. engr. (Eastern Region), Suburban Station Bldg., 1617 Pennsylvania Blvd., Phila 4, Pa. Bids May 28. CD 5/28.

J. A. Meloney & Son, Chester Springs, Pa. Separate Contracts. **$840,000.** RESIDENTIAL DEVELOPMENT, Callowhill and Oxford Sts., PHOENIXVILLE, PA.

▲ **University Homes Inc.**, c/o Gordy & Son, New Castle, Del., Separate Contracts. **$4,800,000.** RESIDENTIAL DEVELOPMENT, Capitol Trail, NEWARK, DEL.

▲ **Fidelity Underwriters Inc.**, 206 W. 10 St., Wilmington, Del., Separate Contracts, **$1,200,000** RESIDENTIAL DEVELOPMENT, Hyde Park Section, WILMINGTON, DEL.

SOUTH

BIDS ASKED—HEAVY CONSTRUCTION

WEST VIRGINIA—B.A. 7/14—At Office West Virginia Turnpike Comn., 1340 Wilson St., Charleston, Zone 5,

Fayette and Kanawha Counties—Contract No. 22, 22A, 22B, 3 concrete rigid frame bridges as follows: Bridge No. 48, at about Mile 53.0, Bridge No. 50, located at about Mile 53.6 both near the town of Westerly in Fayette County and Bridge No. 59, at about Mile 60.5 near town of Burnwell, in Kanawha Co. along route of Turnpike. Howard, Needles, Tammen & Bergendoff, P.O. Box 5266, Capitol Station, Charleston, consult. engrs.; adv. ENR 7/2. CD 4/30/52, under Streets and Roads.

BIDS ASKED—BUILDINGS

▲ **Ga., Atlanta**—JUDICIARY, etc.—B.A. 8/19—State, State Capitol, Judiciary Bldg., $6,000,000; and Agriculture-Labor Office Bldg., $6,000,000. A. T. Bradbury, 60 5 St. N. E., archt. CD 3/24.

HEAVY CONSTRUCTION

LOW BIDS AND CONTRACTS

▲ **Houston Contg. Co.**, 2707 Ferndale St., Houston, Tex. and **H. C. Price Co.**, Bartlesville, Okla. CA Approx. **$96,500,000.** 860 mi. 30 in. welded joint gas pipe line main starting near Lake Charles, La. thru Louisiana-Mississippi-Tennessee and to Terminal in Boyd Co., Ky., LOUISIANA, MISSISSIPPI, TENNESSEE and KENTUCKY. Gulf Interstate Gas Co., Oil & Gas Bldg., Houston, Tex. CD 6/19.

▲ **Traylor Bros. Inc.**, Upper Mt. Vernon Rd., Evansville, Ind., CA. **$1,144,000.** tunnels and other sewerage constr. work, NASHVILLE, TENN. City, City Hall, Nashville, Tenn. Bids June 16. CD 6/18, under LB.

BUILDINGS

LOW BIDS AND CONTRACTS

▲ **Charles H. Tompkins Co.**, 907 16th St. N.W., Wash., D. C., CA. **$4,000,000,** Research LABORATORY, FALLS CHURCH, VA., Melpar, Inc., (Div. Westinghouse Air Brake Corp.), 452 Swann Ave., Alexandria, Va. Bids May 6, awarded June 19. CD 4/20.

▲† **Lang Constr. Co.**, P.O. Box 472, Hampton, Va., CA, **$1,687,000,** 1500-man EM BARRACKS, NOY 77143, Spec. 37622, CD 5/25; CA **$1,037,000,** 900-man EM BARRACKS, NOY 77144, Spec. 37623, Naval Amphibious Base, LITTLE CREEK, VA. P. Wks Office, Headquarters, Fifth Naval Dist., U. S. Naval Base, Norfolk 11, Va. Bids June 16. CD 5/25.

▲ **Frank H. Conner Co., Box** 1031, Charlotte 1, N. C. LB. **$3,219,000,** 2 story, structural steel, masonry, Princess Anne County HIGH SCHOOL, Thalia, PRINCESS ANNE, VA. Princess Anne County School Bd., Princess Anne, Va. Bids June 12. CD 6/18, under LB

▲ **B. F. Parrott & Co. Inc.**, Boxley Bldg., Roanoke, Va. LB, **$2,449,800,** Memorial and Crippled Children's HOSPITAL addn., ROANOKE, VA. Memorial & Crippled Children's Hospital, Crystal Springs, Roanoke, Va. Bids June 16. CD 5/21.

Joseph G. Moretti, Inc., 2401 N.W. 7 St., Miami, Fla. CA. **$862,806** Jai Alai FRONTON bldg., DANIA, FLA. Munro Operating Co., c/o Robert Law Weed & Assocs., archts, 550 Brickell Ave., Miami, Fla. Bids May 4. CD 5/14, under LB.

▲ **Henry G. Dupree Co.**, 1125 Kings Ave., Jacksonville, Fla., LB. **$2,404,000,** HOSPITAL, JACKSONVILLE, FLA. Baptist Hospital Bd. of Jacksonville, Fla., 1100 San Matce Blvd., Jackson, Fla. Bids June 17. CD 6/11.

▲ **Girdler Corp.**, 224 E. Broadway, Louisville, Ky. CA. Est. **$2,000,000.** PLANT addn., YAZOO CITY, MISS. Mississippi Chemical Corp., Yazoo City, Miss.

▲ **R. F. Farnsworth & Co.**, 1515 S. Salcedo St., New Orleans, La. CA. **$1,912,514.** DINING HALL-KITCHEN and 2 DORMITORIES at Louisiana State Prison, ANGOLA, LA. State Bldg. Auth., State Capitol, Baton Rouge, La. Bids June 11, awarded June 17. CD 6/22, under LB.

▲ **J. W. Bateson Co., Inc.**, Irwin-Keasler Bldg., Dallas, Tex. LB **$3,468,980.** Base Bid A Sect. 2, 54 DWELLING bldgs., 408 units;

R. P. Farnsworth & Co., Inc., 1515 S. Salcedo St., New Orleans, La. LB **$7,395,960.** Base Bid B, Sects. 2 and 3, 114 DWELLING bldgs., 872 units;

R. F. Ball Constr. Co., Inc., Box 1057, San Antonio, Tex. LB **$11,221,305.** Base Bid C, Sects. 2, 3 and 4, 181 DWELLING bldgs., 1,352 units, Desire Street Housing Proj. LA-1-14, NEW ORLEANS, LA. New Orleans Housing Auth., 1111 Tulane Ave., New Orleans, La. Bids June 12. CD 6/4.

MIDDLE WEST

BIDS ASKED—BUILDINGS

▲ **Ill., Highland Park**—SCHOOL—B.A. 7/9—School District 113, 300 Vine St., high school addn., academic, gymnasium, auditorium and shop bldgs., cafeteria, $4,000,000. Loebl, Schlossman & Bennett, 430 N. Michigan Ave. Chicago, Zone 11, archts. CD 8/15/51.

HEAVY CONSTRUCTION

LOW BIDS AND CONTRACTS

▲ **Ohio**—State Hy. Dpt., Ohio Dpts. Bldg., Columbus, Zone 15,

W. L. Johnson Constr. Co. & Assoc., Box 218, Zexley Station, Columbus, O., CA. **$2,304,196,** type T-71 and structures, 7.848 mi. USR 23-0-00 AA-AF-11, Pike Co.;

W. H. Ringwald & Sons Co., Inc., 42 E. Second St., Chillicothe, O., CA. **$679,450,** type T-35 and T-33 and structures 4.156 mi. SR 124-22-59, A-S-569 (12) Pike Co.;

The Red Eagle Corp., 176 Walhalla Rd., Columbus, O., CA. **$829,056,** Part II type T-35 and structure 5.668 mi. USR 23-3-36; (5-99-8108) A-F-626 (15), A-F-626 (16), F-626 (13) revised, Scioto Co. Grand total $3,812,702. Bids June 12. CD 6/19, under LB.

BUILDINGS

LOW BIDS AND CONTRACTS

▲† **Alco Products Div.**, American Locomotive Corp., 332 S. Michigan Ave., Chicago, Ill., CA. **$1,352,450,** coolant condensers;

General Electric Corp., Portsmouth, O., CA. **$1,337,276,** electric motors for Gaseous Diffusion PLANT (Subcontractors under Peter Kiewit Sons' Co., P.O. Box 268, Portsmouth, O.) for Atomic Energy Comn.,

(Continued on page 59)

PROJECTS COVERED

Projects—By Size

Construction projects here reported cover the United States and Canada, are of these minimum sizes or larger: water supply, earthwork, waterways $34,000; other public works $60,000; industrial buildings $82,000; other buildings $300,000.

Classes of Construction

(Name in order of Listing)

Water Supply
Sewers, Waste Disposal
Bridges
Streets & Roads
Earthwork, Waterways
Latin America
Public Buildings
Commercial Buildings
Industrial Buildings
Unclassified

Stages Reported

PROPOSED WORK: Including appointment of engineers or architects.

BIDS ASKED (new announcements only). For full calendar, see also preceding issues of ENR.

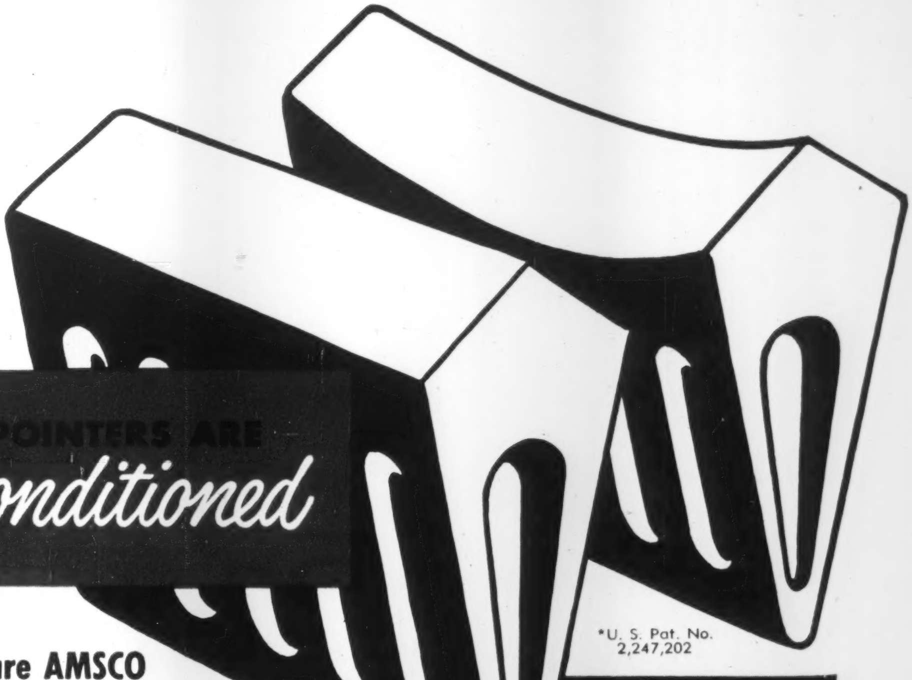
LOW BIDDERS: On jobs below $500,000 value all low bidder news will be the final reports published on the projects invloved except where award is not made to the low bidder. In this case, a supplementary contract award report will be published.

CONTRACTS AWARDED: Except awards to low bidders previously reported in low bidder stage.

Dates shown are of issue in which last previous report was published.

Symbols and Abbreviations Include:

†	Federal Government
▲	Project of $1,000,000 or over.
B.A.	Bids Asked
ENR	Engineering News-Record
CD	Engineering News-Record Construction Daily



THESE REPOINTERS ARE *wear-conditioned*

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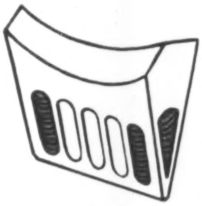
Because they are AMSCO "Wear-Sharp"* Repointers that stay sharper with use...

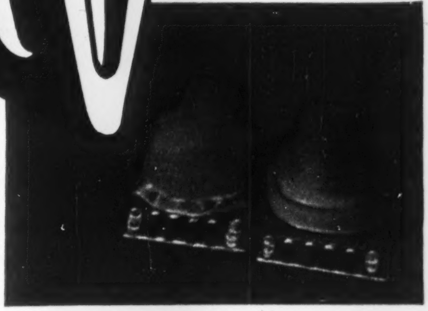
Service life plus! The combination of Amsco Manganese Steel and the hardness of AMSCOATING with Amsco Hardfacing electrodes—gives you a tooth that wears evenly and stays sharp longer.



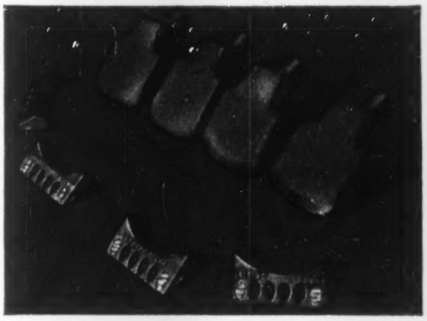
Note that only certain grooves (shown in red at left) are Amscoated—the grooves on the outside and the one on each end. This is the area where ordinary teeth wear fastest. The hardened corners on the "Wear-Sharp" equalize wear along the entire cutting edge and eliminate rounded, blunted corners that cut digging speed and waste power.

Field reports indicate that "Wear-Sharp" repointers will give as high as six times the life of other teeth.

In these photographs at right of a typical case history, old repointers lasted from three to four days. Amsco "Wear-Sharp" repointers lasted 32 days—eight times the service life of the repointers previously used.



"Wear-Sharp" repointers installed on two dipper teeth showing condition of old teeth.



Notice the even wear on these teeth after 257 hours of use with "Wear-Sharp" repointers used. New "Wear-Sharps" are ready for installation.

AMERICAN Brake Shoe COMPANY

AMERICAN MANGANESE STEEL DIVISION

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COURT STREET is still giving good service after 60 years!

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These old streets carry weights and volumes of traffic never anticipated 60 years ago. They show the scars of long, hard use but are still earning dividends on the original investment.

Such durability and ***low-annual-cost*** service is typical of concrete pavement. And today, because of improved design, materials and construction methods, concrete pavements can be built to give even better and longer service.

Concrete pavement also is safer. It is skid-resistant, wet or dry, and its light color provides maximum visibility at night.

For additional information on designing and building long-lasting, safe, ***low-annual-cost*** concrete streets write for free literature. It is distributed only in the U. S. and Canada.

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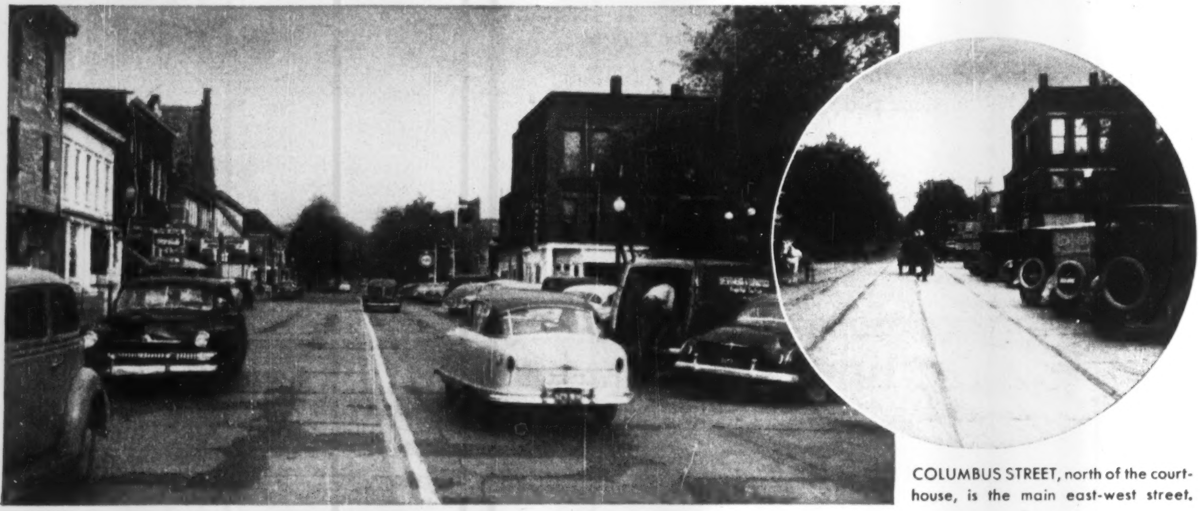
DEPT. A7a-17, 33 WEST GRAND AVENUE, CHICAGO 10, ILLINOIS
A national organization to improve and extend the uses of portland cement and concrete . . . through scientific research and engineering field work



COLUMBUS STREET, north of the courthouse, is the main east-west street.

1901 Constitution Ave. N.W., Wash. 25, D. C. PIKETON AND WAKEFIELD, O. CD 8/13/52, under CA.

WEST OF MISSISSIPPI

BIDS ASKED—HEAVY CONSTRUCTION

▲ **Ia., Clear Lake**—B.A. 7/14—City, City Hall, 69,283 Ft. sewers, force mains, 149 manholes, 6 pumping stations, complete sewage treatment plant, Brown Eng. Co., 322 K. P. Bldg., Des Moines, engrs. CD 4/17/52, under LB.

BIDS ASKED—BUILDINGS

▲ **Tex., Gainesville**—Bids Asked—National Supply Co., Gainesville, 100,000 sq. ft. metal, masonry plant mfg. oil field machinery, equip., $3,000,000; warehousing $275,000; repair shop machinery equip., $90,000. CD 6/16.

SOON LETS CONTRACT—BUILDINGS

▲ **Kan., Fort Scott**—HOSPITAL—Mercy Hospital, Sisters of Mercy, Fort Scott, soon lets contract hospital, $2,000,000. Schmidt-McVay & Peddie, 1832 E. 2 St., Wichita, archts. CD 5/22.

▲ **Tex., Houston**—SHOPPING CENTER—H. R. Houck Sr., 3780 Grammercy St., soon lets contract 100,000 sq. ft., brick shopping center, $1,000,000. Joe B. Reynolds, 2480 Times Blvd., archt. CD 6/1.

HEAVY CONSTRUCTION

LOW BIDS AND CONTRACTS

▲† **Morrison-Knudsen Co. Inc.**, 411 W. 5 St., Los Angeles, Calif., LB **$1,322,889**. est. $1,313,523, earthwork and structures for Cambridge Canal, Missouri River Basin Proj., Spec. DC 3940, Oxford and Orleans, Harlan Co., NEBRASKA. Bureau Reclamation, Dpt. Interior, Arapahoe, Neb. Bids June 16. CD 6/3.

▲† **Industrial Constr. Co.**, 1627 W. Main St., Oklahoma City, Okla., CA, **$2,441,889**, est. $2,597,597, A. Mn. C. WAREHOUSE, Tinker Field, Eng-34-066-53-102, OKLAHOMA CITY, OKLA. U. S. Eng., Box 61, Tulsa, 2, Okla. Bids May 28, awarded June 16. CD 6/3.

▲ **TEXAS**—State Hy. Comn., Austin,

Heldenfels Bros., Rockport, Tex., LB **$684,823**, flexible base, asph. 10.718 mi., Hy., SH 35, Loop 81 and FM 632, Proj. F 377 (5), Aransas and San Antonio Counties;

Marvin Brown, Inc., P. O. Box 14117, Houston, Tex., LB **$111,820**, flexible base shell concrete base and b. conc. 0.647 mi. Hy. FM 518 and SH 35, Proj. C 178-2-9 and C 976-2-4, Brazoria Co.;

Bryan & Hoffman, Box 390, Plainview, Tex., LB **$121,068**, grading, structures, base and surf. 18.763 mi. Hy. FM 1729, US 62 and US 82, Proj. S 1572 (1), Lubbock Co.;

Harry Campbell, Rte. 5, Box 68-A, Abilene, Tex., LB **$138,662**, grading, structures, base, surf. 14.863 mi. Hy. FM 1211, Proj. S 711 (6), Loving Co.;

Center Paving Co., 309 First Natl. Bank Bldg., San Antonio, Tex., LB **$150,075**, flexible base, two course surf. tr. 13.94 mi. Hy. SH 349, Proj. S 309 (5), Martin Co.;

Joe Davidson, P. O. Box 439, Terrell, Tex., LB **$131,477**, grading, structures, base, surf. 10.001 mi. Hy. FM 455, Proj. R 816-2 6 and R 816-2 7, Denton Co.;

E. W. Hable & Sons, Corsicana, Tex., LB **$68,531**, grading, structures, base, surf. 6.27 mi. Hy. FM 2015, Proj. S 1844 (1), Smith Co.;

H. R. Henderson & Co., P. O. Drawer 313, Marshall, Tex. LB **$124,727**, grading, structures, base, surf. 5.282 mi. Hy. FM 1999 and 134, Proj. S 271 (2) and S 176 (3), Harrison Co.;

F. C. Herrling, Kurten, Tex., LB **$85,446**, grading, structures, base, surf. 5.743 mi. Hy. FM 362, Proj. R 944-2-1, Waller Co.;

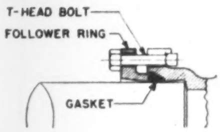
L. W. Pelphrey Co., P. O. Box 1166, Gladewater, Tex. LB **$160,486**, flexible base, one course surf. tr. 12.25 mi. Hy. US 69, Proj. F 153 (3), Wood Co.;

Dan Pennington, P. O. Box 13, Grapeland, Tex., LB **$161,103**, flexible base and b. conc. 3.547 mi. Hy SH 119, Proj. S 1819 (1), DeWitt Co.;

A. L. Sheppard, 3211 Wilbarger St., Vernon, Tex., LB **$64,183**, grading, structures, base, surf. 8.237 mi.

MH

MECHANICAL JOINT FIRE HYDRANT



Made-up Mechanical Joint cut away to show its design.

Standard compression type fire hydrant made in full compliance with latest AWWA Specifications. Available in Standard model or Traffic model. Main valve opens against the pressure. Valve will remain closed in case hydrant is broken off in traffic accident. Features include low friction loss, high efficiency, revolving head, dry top, easy lubrication.

Hydrant shoe has two heavy lugs for use in strapping hydrant to pipe line. The end connection is Standardized Mechanical Joint in accordance with specifications of Cast Iron Pipe Research Association. A thick gasket is compressed by a bolted follower ring. Advantages include easy assembly, low joint cost; deflection, expansion and contraction without leakage. For complete information, write or wire M & H VALVE AND FITTINGS COMPANY, Anniston, Alabama.

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CAPACITY TO 600 TONS

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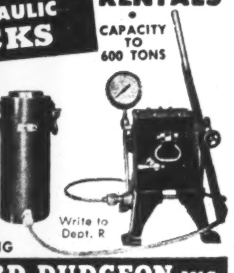

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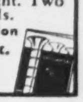
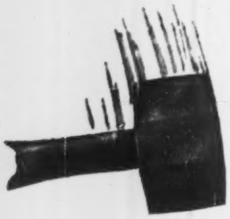
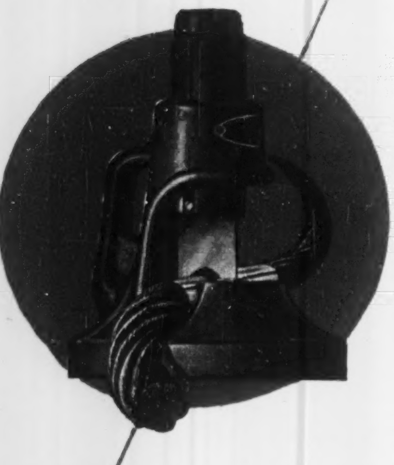


Morse-Starrett
WIRE ROPE CUTTER

CUTS WIRE ROPE





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"GUNITE" CONTRACTORS
GENERAL OFFICES—ALLENTOWN, PENNA., U.S.A.
MANUFACTURERS OF THE "CEMENT GUN"

Hy. FM 1678, Proj. S 1593 (1), Runnels Co.;

Texas Bitulithic Co., P. O. Bcx 10365, Dallas, Tex. LB **$1,552,742,** c. conc. 3.246 mi. Hy. US 75, Proj. U 515 (9), Dallas Co.; LB **$267,258,** hot mix b. conc. pavement and flexible base shoulders 12.635 mi. Hy. US 77, Proj. C 442-2 16 and C 581-1-17, Dallas Co. Bids June 17. CD 6/4, 5/25, 5/28, 6/2.

BUILDINGS

LOW BIDS AND CONTRACTS

▲ **Chalmers & Borton,** Hutchinson, Kan. CA Est. **$2,000,000.** design and construct GRAIN ELEVATOR, HUTCHINSON, KAN. Addington Grain Co., Hutchinson, Kan.

▲ **Mid-Continent Petroleum Co.,** Mid-Continent Bldg., Tulsa, Okla., Purchase and Hire, **$2,500,000** 7,500 bbl. CATALYTIC CRACKER UNIT at refinery, TULSA, OKLA. L. S. Dresser, Masonic Bldg., Tulsa, Okla., engr. Awarded June 1.

FAR WEST

BIDS ASKED—HEAVY CONSTRUCTION

▲ **Calif., South Laguna**—B.A. 7/16—South Laguna Sanitary District, 31652 2 Ave., sewage collection and disposal system. $1,250,000. Plans deposit $25. James M. Montgomery, 15 N. Oakland Ave., Pasadena, engr.

HEAVY CONSTRUCTION

LOW BIDS AND CONTRACTS

▲† **S. Morgan Smith Co.,** York, Pa., CA, **$4,197,524,** est. $7,500,000. six 100,000 hp. hydraulic turbines for Chief Joseph Dam, Bridgeport, Inv. 53-60, WASHINGTON. U. S. Eng., 4735 E. Marginal Way, Seattle, 4, Wash. Bids May 6. CD 5/12, under LB.

▲† **Grove, Shepherd, Wilson & Kruge, Inc.,** 247 Park Ave., New York, N. Y., CA, **$2,428,468,** 15 underground tanks at Hanford Works for waste storage, RICHLAND, WASH. Hanford Operations Office, Atomic Energy Comn., Richland, Wash. Bids June 10. CD 6/16, under LB.

▲† **Winston Bros. Co.,** Northwest Bank Bldg., Mineapolis, Minn., **McLaughlin, Inc.,** Ford Bldg., Great Falls, Mont., **F. & S. Contg. Co.,** 1300 Chicago St., Butte, Mont., **Johnson, Drake & Piper Co., Inc.,** Baker Bldg., Minneapolis, Minn., **Donovan Constr. Co.,** 1725 Carroll Ave., St. Paul, Minn., **C. F. Lytle Co.,** 250 Insurance Exchange Bldg., Sioux City, Ia., **S. Birch & Sons Constr. Co.,** Ford Bldg., Great Falls, Mont., **Foley Bros., Inc.,** 900 New York Bldg., St. Paul, Minn., and **Fegles Constr. Co. Ltd.,** Wesley Temple Bldg., Minneapolis, Minn., CA **$29,820,997,** Phase 1, power house, The Dalles Dam, Wasco Co. CIVENG-35-026-53-123, OREGON. U. S. Eng., Pittock Block, Portland, Ore. Bids May 19, awarded June 15. CD 5/21, under LB.

BUILDINGS

LOW BIDS AND CONTRACTS

▲† **A. J. Cheff Constr. Co.,** 10054 W. Marginal Way, Seattle, Wash., LB, **$1,963,085,** est. $1,943,680 Schedules 1, 3 and 5; Candler power and pumping plant and appurtenant works, concrete-conduit penstocks and pump intakes, concrete-conduit discharge line Yakima Proj., Spec. DC 3950, WASHINGTON. Bureau Reclamation, Dpt. Interior, Kennewick, Wash. Bids June 11. CD 5/5.

U. S. POSSESSIONS

BUILDINGS

LOW BIDS AND CONTRACTS

▲† **Stolte, Inc. and Morrison-Knudsen Co., Inc.,** 74 New Montgomery St., San Francisco, Calif., LB, **$9,463,000,** 1,000-bed HOSPITAL and utilities, Veterans Hospital, Hilagara Ave., Diliman, MANILA, PHILIPPINE ISLANDS. Republic of Philippines, Dpt. National Defense, Camp Murphy, Quezon City, Philippine Islands. Bids May 5. CD 3/16.

Proposed Projects

WATER SUPPLY

▲ **Colo., Boulder**—City, City Hall, voted bonds June 9, Twin Lakes Reservoir, **$1,300,000;** distribution reservoir at south edge of city, **$212,300;** supply line to South Reservoir, **$480,000;** replacement of 1 section of transmission line in mountains, **$825,000.** R. J. Tipton & Assocs., Insurance Bldg., Denver, Colo., consult. engrs. and archts. CD 11/16/51.

▲ **Okla., Oklahoma City**—City, City Hall, **$2,000,000** bond election June 30, 80 shallow water wells and piping, **$2,000,000.** C. E. Bretz, 1916 N. Broadway, consult. engr. CD 6/4.

▲ **Tex., Grand Prairie**—City, connecting local water sys. with Grapevine Reservoir for permanent domestic water supply, **$2,000,000.** CD 4/7/50.

▲ **Tex., Irving**—City, connecting local water sys. with Grapevine Reservoir, to insure a permanent water supply. **$2,000,000.** CD 6/30/52.

SEWERS, WASTE DISPOSAL

Tenn., McMinnville—City, bond election June 19, sanitary sewer imprvs., **$992,000.** J. Sanders Parker, 816 8th Ave. S., Nashville, consult. engr. CD 5/1.

BRIDGES

▲ **VIRGINIA**—State Hy. Dpt., Central Highway Bldg., 1221 E. Broad St., Richmond, Zone 19.
King William Co.—bridge over Pamunkey River at West Point. **$1,000,000-$1,500,000.** CD 4/3.

▲ **Wash., Seattle**—City, County—City Bldg., Zone 4, W. Marginal Way grade separation, 1 Ave. S. bridge to S. W. Seattle, **$1,200,000;** 4 ramp connections from Alaskan Way viaduct to central business dist. **$400,000;** Spokane St. grade separation at Avalon Way and Harbor Ave. S. W. **$1,100,000;** extend east approach to north bascule of Spokane St. viaduct to overpass 11 Ave. S. W. and 2 railroad tracks, **$1,250,000;** Ballard Bridge grade separation at both north and south ends, **$1,500,000;** 15 Ave. W. and W. Garfield St. overhead, **$135,000;** E. 45 St. and Montlake Blvd. grade separation, **$190,000.** W. E. Parker, city engr.

STREETS AND ROADS

▲ **NORTH CAROLINA**—State Hy. & P. Wks. Comn., Raleigh,
Cherokee Co.—grading, paving 3 mi. from Peachtree toward Marble, **$100,000.**
Clay Co.—grading, paving 6 mi. from Hayesville toward Murphy, **$400,000.**
Graham Co.—imprv. 2½ mi. between Topton and Robbinsville, **$155,000.**
grading, paving between Fontana and Brock, $400,000.
Henderson Co.—relocated U.S. 64 from Horse Shoe to Transylvania Co. line, **$400,000.**
Jackson Co.—grading, paving 7 mi. between Cowee Gap and Dillsboro, **$950,000.** CD 1/23.
Transylvania Co.—grading, paving 6 mi. between Lake Toxaway and Jackson Co. line, **$210,000.**

▲ **Wash., Seattle**—City, County—City Bldg., Zone 4, widen E. Pacific St., Montlake Blvd. to 7 Ave. N. R. **$120,000;** imprv. Harbor Ave. S. W., W. Spokane to Mexico Sts., **$125,000;** widen Swift Ave., Albro Pl. to Empire Way, **$253,000;** widen Corwin Pl., Dearborn to Atlanta Sts., **$100,000;** widen 23 Ave., Rainier Ave. to E. Jefferson St. **$150,000;** extend 6 Ave. S. from James to Jackson Sts., **$700,000;** extend W. Marginal Way. from 1 Ave. S. to city limits, **$250,000;** extend Empire Way from S. Dearborn St. to Lake Washington Canal. **$1,350,000;** widen E. and N. 50 St. from Brooklyn Ave. to Green Lake Way, **$115,000;** widen E. Madison St. from 12 to 23 Aves. **$210,000.** W. E. Parker, city engr.

EARTHWORK, WATERWAYS

▲ **California**—Alameda Co. Flood Control & Water Conservation District, 1225 Fallon St., Oakland, voted **$6,954,000** bonds, flood control work in watershed of San Lorenzo Creek, Alameda Co. CD 4/28.

▲ **Ga., Atlanta**—Fulton Co., Court House, grade site for industrial development. **$1,000,000.**

▲ **British Columbia**—British Columbia Electric Co., Ltd., 425 Carrall St., Vancouver, power plant at Bridge River Project, **$5,000,000;** power plant at Seton Creek at Fraser River near Lillooet. **$8,000,000.**
Ont., Orillia—Town of Orillia Water, Light & Power Commission, 25 West St. N., hydro-electric power development at Horseshoe Lake on Gull River, 32 mi. east of Gravenhurst, **$900,000.**

PUBLIC BUILDINGS

▲ **Calif., Santa Ana**—SCHOOL—Santa Ana School Dist., 1415 French St., voted **$3,985,000** bonds June 2, school imprvs. CD 4/9.

▲ **Calif., Sunnyvale**—SCHOOLS—Fremont Union High School District Sunnyvale, voted **$2,000,000** bonds, 2 high schools. CD 5/1.

▲ **Conn., East Windsor**—SCHOOL—Town Bd. Educ., Warehouse Point, plans by Paul H. Olson & Cimino & Richard F. Miller Assocs., 1052 New Britain Ave., Elmwood High School, Alfred Potwin Property, Town St. on Route 5, **$1,000,000.** CD 2/16.

▲ **Fla., Gainesville**—MEDICAL SCHOOL—State Bd. Control Education Bldg., Florida State University Tallahassee, plans by Guy C. Fulton, 2734 S. W. 4 Place, medical school at University of Florida **$12,000,000.** CD 8/29/51.

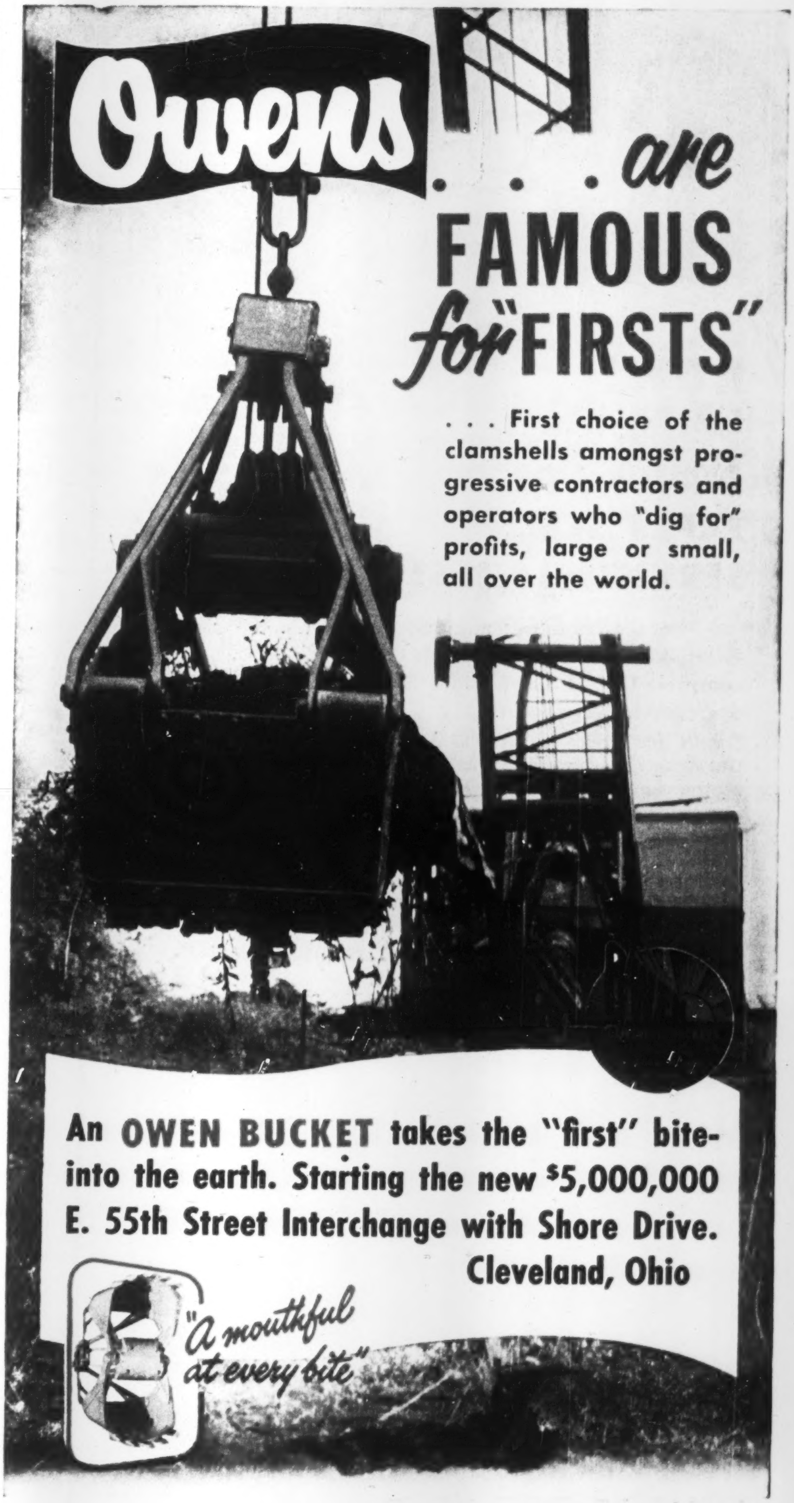
▲ **Ga., Hartwell**—SCHOOL—Hart Co. Bd. Educ., Hartwell, high school, **$1,000.000.**

▲ **Ill., Elgin**—OFFICE and ADMINISTRATION—State, State Capitol, Springfield, plans by Louis H. Gerding, state archt., office, administration bldg., sign shop and storage sheds for Ill. State Division of Highways **$1,185,600.**

▲ **Ill., Galesburg**—PHYSICAL PLANT FACILITIES, etc.—State, State Capitol, plans by Louis H. Gerding, state archt., rehabilitation of physical plant facilities and addn. to power plant, **$1,050,000.**

▲ **Ind., New Albany**—COURT HOUSE—Floyd Co. Bd. Comr., New Albany, plans by Hawkins & Walker, New Albany, 5 story stone, no bsmnt., court house, **$1,500,000.** CD 10/4/45.

▲ **Mich., East Grand Rapids**—SCHOOL—City, Louis F. Battles, city clk., elementary school east of Breton Downs School, **$300,000;** brick, steel, concrete high school, **$1,500,000;** elementary school Reeds Lake Sect., **$300,000.**



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▲ **Mich., Grosse Pointe**—SCHOOL—Bd. Educ., S. T. Johnson, secy, plans by Earl G. Meyer, 806 Farwell Bldg., Detroit, 2 story, bsmnt., brick, steel elementary school, Roslyn Rd., Grosse Pointe Shores, **$750,000;** brick, steel, concrete high school addn., gymnasium and auditorium, Grosse Pointe Blvd., Grosse Pointe, **$1,000,000.** CD 2/20.

▲ **Mich., Mount Clemens**—SCHOOL—City, Frederick Soule, city clk., voted **$1,000,000** bonds June 8, schools.

▲ **Mich., Southfield** — SCHOOLS — Southfield Twp. Bd. Educ., 24675 Lahser St., voted **$1,600,000** bonds schools. Jansen & Keough, 15875 James Couzens Hy., Detroit, archts. CD 5/20.

▲ **Mont., Butte**—SCHOOLS—Butte School Dist., voted bonds, Junior High School, **$2,450,000;** grade school, **$450,000.** CD 2/5.

▲ **N. C., Dobson**—HOSPITAL—Surry Co., Court House, Dobson, hospital, **$1,380,000.**

▲ **N. C., Wilmington**—HOSPITAL—New Hanover Co., Court House, hospital. **$3,000,000.**

▲ **O., Delaware**—HIGH SCHOOL—Bd. Educ., Delaware, defeated **$1,333,440** bonds June 5, 14-room Junior High School and 12-room grade school, modernizing present 5 schools. CD 4/8.

▲ **Okla., Stillwater**—ENGINEERING—Oklahoma A. & M. College, Stillwater, plans by Phil A. Wilbur, Stillwater, 4 story engineering research center, **$4,000,000.** CD 2/23/50.

▲ **R. I., Newport**—HIGH SCHOOL—City, School Dpt., Carl H. Porter, supt., Newport, plans by Kelly & Gruzen, 80 Fifth Ave., New York, N. Y., high school, off Ruggles Ave. **$2,200,000.** CD 5/20.

▲ **S. C., Columbia**—HOSPITAL ADDN.—Richland Co., Court House, Columbia Hospital addn. **$2,250,000.**

▲ **Tex., Victoria**—HOSPITAL—Victoria Co., Victoria, plans by Jordan C. Ault & Robert Rick, archts.-engrs. Victoria and O'Connell & Probst, 305 Perry-Brooks Bldg. Austin, county hospital. **$2,000,000.** CD 3/23.

▲† **Wash., Bremerton**—ELECTRONICS, ELECTRIC SHOP—Bureau Yards and Docks Annex, Navy Dpt., Arlington, Va., 260,000 sq. ft. electronics and electric shop bldg., Puget Sound Naval Shipyard, **$6,000,000.**

▲ **Alaska, Anchorage**—GYMNASIUM—School Bd., Anchorage, plans by Manley & Mayer, Loussac-Sogn Bldg., 96,000 sq. ft. high school gymnasium with shops, rein.-con. const. in Spenard area, **$2,500,000.** CD 5/19.

COMMERCIAL BUILDINGS

▲ **Calif., Los Angeles**—HOSPITAL—La Cienega Hospital & Research Corp., 245 S. La Cienega Blvd., 2 story, rein.-con. hospital W. Jefferson Blvd. **$1,000,000.** Adolph A. Cohan, 8746 Melrose Ave., consult. engr.

▲ **Colo., Denver**—HOSPITAL—Sisters of Mercy, Mercy Hospital, E. 16 Ave. and Milwaukee St., 6 story, brick Mercy Hospital addn. **$2,000,000.**

▲ **D. C., Wash.**—BUS TERMINAL—Bank Building Corp. 906 Sidney St., St. Louis, Mo., bus terminal, parking garage, shopping center, office, bomb proof vault, Ninth and Tenth Sts. and D and E Sts. N.W., **$60,000,000-$70,000,000.** Oscar H. Beasley Sr. and Jr., Kass Sheraton Bldg., Wash., D. C., consult. engrs.

▲ **Fla., Miami**—HOTEL—Irving Sommer, 345 W. 47 St., Miami Beach, hotel, **$1,000,000.**

▲ **Ill., Arlington Heights**—HOMES—Kimball & Assocs., 575 Lee St., Des Plaines, plans by A. J. DelBianco, 5501 Irving Park Rd., Chicago, 1718 homes, paving, water lines, sanitary and storm sewers, **$17,000,000.** E. N. Fletcher, 1887 Miner St., Des Plaines, consult. engr.

▲ **Mich., Pontiac**—HOSPITAL—Pontiac General Hospital, Dr. C. T. Ekelund, chm. Bldg. Comn., Pontiac, brick, steel, concrete hospital addn. **$3,300,000.**

▲ **Mo., Kansas City**—LIBRARY—Linda Hall Library, c/o Bd. Trustees, Jas. E. Shipman, librarian, 5109 Cherry

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St., Kansas City, Mo., plans by Edw. W. Tanner & Assoc., 310 Ward Parkway, Kansas City, Mo., library, incl. addnl. structures, parking and landscaping gardens, out-of-door reading room, $1,000,000.

▲ **N. Y., Rye**—OFFICE—Standard-Vacuum Oil Co., 26 Broadway, New York Zone 4, will not construct 2 and 3 story office, 26-acre tract, north side of Anderson Hill Rd., near King St. **$1,000,000**. Project abandoned. CD 1/23.

▲ **Okla., Oklahoma City**—HOSPITAL—Oklahoma Baptist Convention, c/o Noftsger & Lawrence, archts., 2756 N.W. 23 St., 250-bed Baptist Hospital. **$1,500,000.**

▲ **R. I., North Kingston**—HOUSING—Bay Shore Realty Co., 90 Calverly St., Providence, plans by Architects Collaborative, 96 Mt. Auburn St., Cambridge, Mass. 350 unit housing development, off Camp Ave. **$2,000,000.**

▲ **Tex., Houston**—MEDICAL BLDG., etc.—Center Medical Building, Inc., c/o Dr. Richard E. Leigh, Jr., Medical Arts Bldg., plans by Golemon & Rolfe, 915 Woodrow St., Houston, and Skidmore, Owings & Merrill, consult. archts., 100 W. Monroe St., Chicago, Ill., 17 story, bsmnt. medical bldg., **$4,000,000**; 3 story ramp parking garage, **$350,000**, on Dryden St. between Main and Fannin Sts. Howard & Johnson, Scanlan Bldg., and Walter P. Moore, 4605 Montrose Blvd., consult. engrs.

▲ **Tex., Houston** — CLUB QUARTERS—Houston Club, Commerce Bldg., plans by Wilson, Morris & Crain, 3330 Graustark St., club quarters, **$1,400,000.** CD 6/16/49.

▲ **Ont., Oakville**—HOUSING—Trusteel Corp (Canada) Ltd., 46 Yonge St., Toronto, 336 steel frame houses on 98-acre site, in Trafalgar Township. **$4,000,000.**

▲ **Ont., Toronto**—OFFICE—Imperial Oil, Ltd., 56 Church St., plans by Mathers & Haldenby, 15 St. Mary St., 19 story, 87x245 ft. steel, masonry and glass walls with 2 story windows office bldg. **$8,000,000.**

▲ **Ont., Toronto**—HOUSING—Winston Park Development, Ltd., 843 Wilson Ave., 2,500-family housing, shopping center 400-stores, community center, new proj. northwest Toronto suburbs to be called "Downsview Park." **$28,000,000.** R. V. Anderson Assoc., Ltd., 966 Eglinton Ave. W., consult. engrs.

INDUSTRIAL BUILDINGS

▲ **Fla., Jacksonville**—WAREHOUSE—Southern Railway J. B. Akers, ch. engr., P. O. Box 1808, Wash., 13, D. C. warehouse along right of way, **$1,000,000.**

▲ **Md., Middle River**—ENGINEERING—Glenn L. Martin Co., Middle River, 364x52x57 ft. and 288x17x7 ft., masonry extension engineering bldg. concrete fdn., **$1,500,000.**

▲ **N. Y., New York**—WAREHOUSE, etc.—Aaron S. and Allan D. Emil, 292 Madison Ave., warehouse and offices 327-45 W. 34 St. **$4,100,000.** Victor Mayper 110 W. 40 St., Zone 18, engr. CD 6/17.

▲ **O., Findlay**—FACTORY—RCA Victor Div., Radio Corp of America, Front and Cooper Sts., Camden, N. J. factory to mfg. electronic component parts for radio and TV sets. **$3,000,000.**

▲ **Tex., Gainesville**—PLANT—National Supply Co., Gainesville, plant, mfg. oil well, field machinery and equip. **$3,000,000**; warehousing, **$275,000.**

▲ **Tex., Longview**—PLANT—Texas Eastman Co., c/o James S. White, pres., Longview, plastic mfg. plant to mfg. polyethylene, near here. **$20,000,000.** CD 7/2.

▲ **Va., Norfolk**—GRAIN STORAGE FACILITIES—Norfolk & Western Ry. Co., A. B. Stone, ch. engr., General Office Bldg., Roanoke, addnl. grain storage facilities at Sewells Point Pier. **$1,000,000.**

▲ **Ont., Brockville**—PLANT—Automatic Electric (Canada) Ltd., 26 Hollinger Rd., Toronto, plans by Percy Booth, 485 McGill St., Montreal, Que., 1 story, 125,000. sq. ft. concrete, steel brick plant. **$1,000,000.** T. Pringle & Son Ltd. 485 McGill St., Montreal, Que., consult. engr. CD 6/15.

▲ **Ont., Cornwall**—PLANT—Dominion Tar & Chemical Ltd., Cornwall, plant to mfg. fiber conduit, **$1,500,000.**

▲ **Que., Montreal**—PLANT—Polynorm-Bilderdigkaan 1—Amersfoort, Holland, plant, **$1,000,000.** R. H. Development Co., 410 W. Sherbrooke St., Montreal, Que., consult. engr.

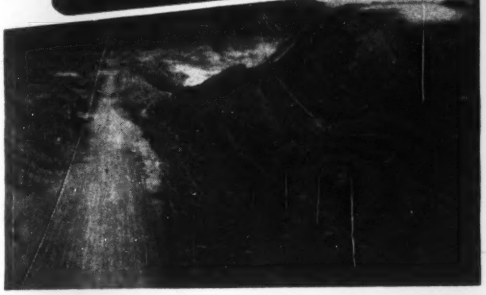
UNCLASSIFIED

▲ **Ga., Cartersville**—GAS DISTRIBUTION SYSTEM—City, natural gas distr. sys. **$1,100,000.** Barnard & Burk, 1023 Nicholson Dr., Baton Rouge, La., consult. engrs. CD 5/26.

▲ **Louisiana, Mississippi, Tennessee and Kentucky**—NATURAL GAS PIPE LINE—Gulf Interstate Gas Co., Oil & Gas Bldg., Houston, Tex., 860 mi. natural gas pipe line from Rayne, La. to Boyd Co., Ky. near Huntington, W. Va., **$77,200,000**; field gathering lines to del. gas to main line 300 mi., Baton Rouge, La., **$2,750,000**; booster station, Baton Rouge, La., $375,000, Trunkline Gas Co. Engineering Dpt., 2332 W. Holcombe St., Houston, Tex., consult. engrs. CD 10/1.

▲ **Tex., Lubbock**—COLISEUM, etc.—City, plans by Haynes & Kirby, 1902 Dixie Dr., 7,000-10,000 seating coliseum, **$750,000**; 3,000-seating auditorium, **$1,000,000.** CD 7/10/52.

▲† **Alaska**—RAILROAD LINE—The Alaska Railroad, Dpt. Interior, Anchorage, rehabilitate Seward-Portage line, **$5,535,000**; reconstr. docks at Seward, **$282,000.**



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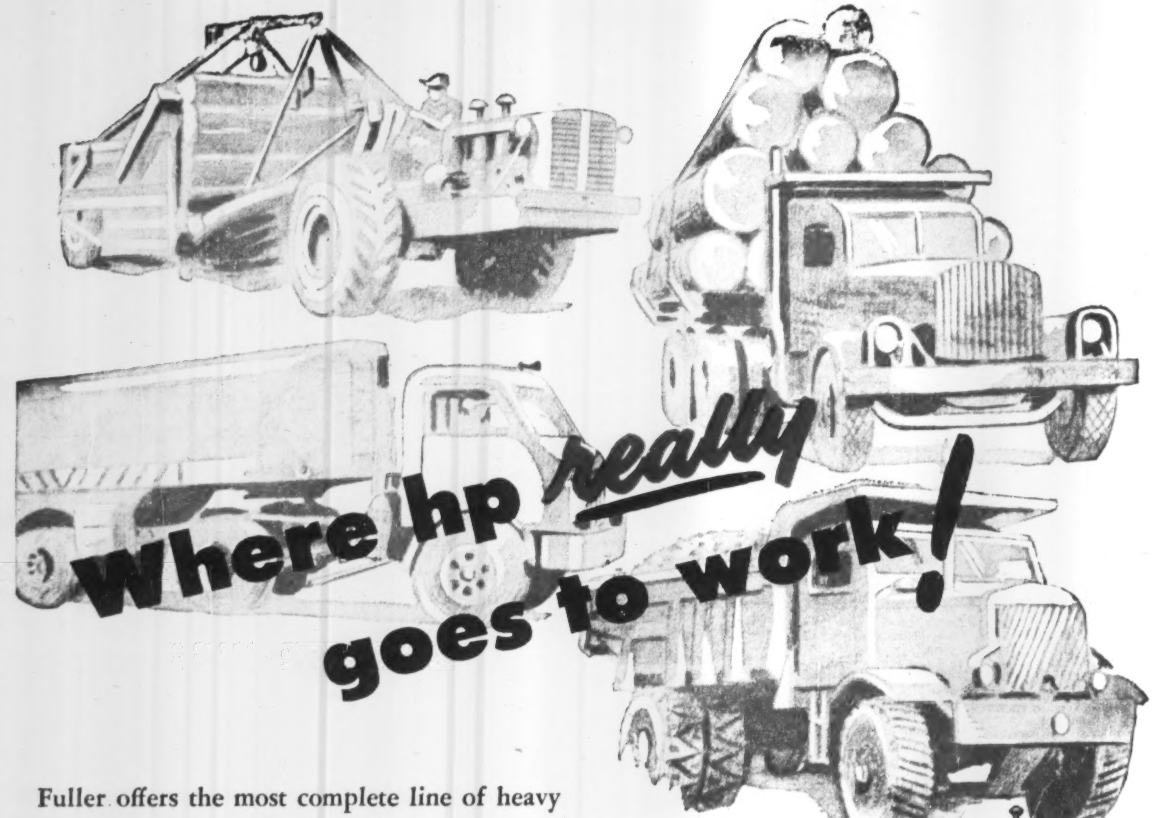
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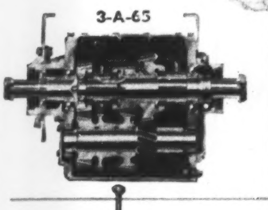
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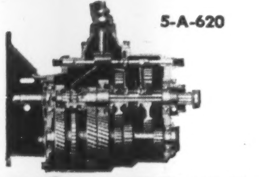
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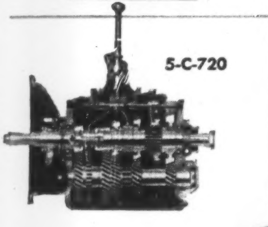
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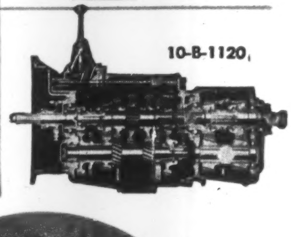
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Bids—Low Bids—Contracts—Second Section

NEW ENGLAND

BIDS ASKED—HEAVY CONSTRUCTION

STATE HIGHWAY LETTINGS
STREETS AND ROADS
July 7 Massachusetts July 10 Vermont

▲† **Me., Limestone**—BOMB STORAGE AREA—B.A. 7/17—U. S. Eng., 857 Commonwealth Ave., Boston, Mass., bomb storage area, Limestone Air Force Base, Eng.-19-016-53-81, $2,000,000. Plans deposit $15, refundable. CD 6/19.

BIDS ASKED—BUILDINGS

▲ **Mass., Weston**—SCHOOL—B.A. 7/15—Town, School Bldg. Comn., J. W. Carter, secy., town Hall, elementary school, off School St. $1,050,000. Plans deposit $50, refundable, Hugh A. Stubbins, Jr., 103 Pleasant St., Lexington, archt. CD 3/4.

BUILDINGS

LOW BIDS AND CONTRACTS

▲ **Bay Shore Realty Co.,** 90 Calverly St., Providence, R. I. Owner Builds. **$2,000,000,** 350 unit HOUSING, off Camp Ave., NORTH KINGSTON, R. I. CD 6/19.

▲ **Gilbane Building Co.,** 90 Calverly St., Providence, R. I., CA **$7,000,000.** HOSPITAL, Eddy and Lockwood Sts., PROVIDENCE, R. I. Rhode Island Hospital, 593 Eddy St., Providence, R. I. Bids June 4. CD 5/27.

MIDDLE ATLANTIC

BIDS ASKED—HEAVY CONSTRUCTION

STATE HIGHWAY LETTINGS
BRIDGES
July 9 New Jersey July 17 Pennsylvania
STREETS AND ROADS
July 7 Maryland July 17 Pennsylvania

▲† **N. Y., Brooklyn**—DRY DOCK—B.A. 7/14—P. Wks. Office, Third Naval Dist., 90 Church St., New York, Zone 7, reconstr. Dry Dock 3, New York Naval Shipyard, NOY 74770, Spec. 35706. $4,700,000. Plans deposit $110. Extended date. CD 6/22.

▲ **N. Y., Mineola**—B.A. 7/14—Bd. Supervs. Nassau Co., Old Court House, Henry C. Schlaich Memorial Bridge between Long Beach and Island Park. $5,000,000. CD 12/7/45.

HEAVY CONSTRUCTION

LOW BIDS AND CONTRACTS

▲ **NEW JERSEY**—State Hy. Dpt., State Hy. Office Bldg., 1036 Parkway Ave., Trenton,

Geo. M. Brewster & Sons, 275 W. Fort Lee Rd., Bogota, N. J., LB, **$1,253,654,** grading 3.025 mi. Route 29 A (1927) Section 4 Route 29 (1952) from 1 mi. north of Byram to Kingwood Station, Kingwood Twp., Hunterdon Co. Bids June 23. CD 5/28.

▲ **Pittsburgh-Des Moines Steel Co.,** Neville Island, Pittsburgh, Pa., CA. **$1,139,129.** Contr. 3, 2,000 ft. span superstructure Fleming Park Bridge and approaches, Stowe Twp., PITTSBURGH, PA. Bd. Comrs., Allegheny Co., County Office, Pittsburgh, Pa. CD 10/22/47.

BUILDINGS

LOW BIDS AND CONTRACTS

▲ **Linden Hill Apartments,** c/o Benjamin Braunstein, archt., 163-18 Jamaica Ave., Jamaica, N. Y. Owner Builds. **$5,000,000,** 675 family APARTMENT on 12-acre tract bounded by 25 and 29 Aves., Union St. and Parsons Blvd., FLUSHING, N. Y.

▲ **Jonathan Homes,** c/o Oscar I. Silverstone, archt., 153 Pierrepont St., Brooklyn 2, N. Y. Owner Builds. **$2,000,000.** 110 HOUSES, 25-acre tract, Old Country Rd., HICKSVILLE, N. Y.

▲ **Westbury Terrace Homes,** c/o Karl Bloch, archt., 7 Landsdown Ave., Merrick, N. Y. Owner Builds **$1,000,000,** 69 HOUSES, tract at Jericho Turnpike and Aintree Rd., WESTBURY, N. Y.

▲ **Jensen Constr. Co.,** 1000 Springfield Ave., Irvington, N. J., CA, **$1,000,000,** ten two story APARTMENTS, for 109-families, on 7-acre site, WESTFIELD, N. J. Duncan Gardens Apartments, c/o George T. Hechtel, archt., 1039 Springfield Ave., Irvington, N. J.

▲ **United Constr. Co.,** 1204 Lincoln Ave., Pittsburgh, Pa., LB **$1,610,000,** Alt. 1, **$1,669,000,** five 7 story bsmnt. brick steel APARTMENTS, Proj. 6-11, BRADDOCK, PA. Allegheny Co. Housing Auth., County Office, Pittsburgh, Pa. Bids June 4. CD 5/28.

▲ **Kopper Co., Inc.,** Koppers Bldg., Pittsburgh, Pa. CA. **$10,000,000,** design and constr. 79 chemical RECOVERY COKE OVENS at Hazelwood Plant, PITTSBURGH, PA. Jones & Laughlin Steel Corp., 3 and Ross Sts., Pittsburgh Pa. CD 1/24/52.

▲ **Lacchi Constr. Co.,** 2023 Maryland Ave., Baltimore, Md. CA **$1,048,298.** 3 story, L-shaped masonry elementary SCHOOL, Gleneagle Rd. and Leith Walk, BALTIMORE, MD. City, Bureau Bldg. Constr., 410 Municipal Bldg., Baltimore, Md. CD 6/16, under LB.

SOUTH

BIDS ASKED—HEAVY CONSTRUCTION

STATE HIGHWAY LETTINGS
BRIDGES
July 7 West Virginia July 10 Kentucky
July 31 Alabama
STREETS AND ROADS
July 7 West Virginia July 10 Kentucky
July 31 Alabama

BIDS ASKED—BUILDINGS

▲ **Fla., Jacksonville**—OFFICE—B.A. 7/15—Prudential Insurance Co. of America, 763 Broad St., Newark, N. J., 22 story, South Central Home Office. Over $5,000,000. Kemp, Bunch & Jackson, Florida Theater Bldg., archts. CD 10/29.

▲ **Fla., Gainesville**—GENERATING UNIT—B.A. 7/20—City, City Hall, furnish 1,500 kw. steam turbine generating unit, $2,000,000. Extended date. Ebaugh & Goethe, 700 S.E. 3 St., engrs. CD 5/15.

SOON LETS CONTRACT—BUILDINGS

▲ **Ala., Birmingham**—BANK, etc.—First National Bank of Birmingham, c/o Warren, Knight & Davis, archts., Protective Life Bldg., soon lets contract bank addns., alterations. $1,000,000. CD 6/17/52.

HEAVY CONSTRUCTION

LOW BIDS AND CONTRACTS

▲ **VIRGINIA**—State Hy. Dpt., 1221 E. Broad St., Richmond,

W. H. Scott, Box 418, Franklin, Va. CA **$1,279,124,** widn. rein.-con. pave to 6 lanes 2.09 mi. Rte. 1, Petersburg Pike, Proj. 1620-71, Richmond, Henrico Co.;

Ralph E. Mills Co., 1210 Tennessee St., Salem, Va., CA **$552,907,** grading, drainage 7.45 mi. and 160 ft. bridge, Rte. 220A, Proj. 1833-17-18, Boone Mill, Franklin Co. Bids June 11. CD 6/17 under LB.

KENTUCKY—Commonwealth of Ky., Dpt. Hys., Frankfort,

Middle West Roads Co., Noblesville, Ind. CA **$867,630.** grade, overhead bridge, bit. surf. Class I 5.588 mi. Bowling Green-Elizabethtown Rd. (US 31W), FI 113 (5), FGI 113 (4), FI 16 (2), SP 114-68, Warren Co. CD 6/19, under LB.

▲† **C. F. Rule Constr. Co.,** 217 13 Ave. N., Nashville, Tenn. LB **$2,543,903,** est. $2,440,642. pumping station (flood protection) Beargrass Creek, Jefferson Co., KENTUCKY. U. S. Eng., 830 W. Broadway, Louisville 3, Ky. Bids June 23. CD 6/16.

BUILDINGS

LOW BIDS AND CONTRACTS

▲ † **Regent Contg. Co.,** 1122 19th St. N.W., Wash., D. C., LB **$1,260,000.** SCHOOL and TRAINING BLDG. Naval Amphibious Base, NOY 75737, Spec. 36500, LITTLE CREEK, VA. P. Wks. Office, Fifth Naval Dist., U. S. Naval Base, Norfolk, Va. Clark & Buhr, Midtown Bldg., Wards Corner, Norfolk, Va., archts. Bids June 18. CD 5/27.

▲ **English Constr. Co.,** Main St., Altavista, Va. CA. **$1,344,265,** HOSPITAL, ROANOKE, VA. Burrell Memorial Negro Hospital, Roanoke, Va. Bids June 11. CD 6/17.

▲ **Henry G. Dupree Co.,** P. O. Box 5456, Jacksonville, Fla., CA, **$2,404,000.** HOSPITAL, JACKSONVILLE, FLA. Baptist Hospital Assn. of Jacksonville, 1100 San Matce Blvd., Jacksonville, Fla. Bids June 17. CD 6/23, under LB.

▲ **Robert Thibodeaux & Co.,** P. O. Box 887, Baton Rouge, La. LB **$1,425,000.** DORMITORIES for men and women, PHYSICAL EDUCATION BLDG., at Southern University, SCOTLANDVILLE, LA. State Bldg. Auth., State Capitol, Baton Rouge, La. Bids June 18. CD 5/14.

▲ **Struck Constr. Co.,** 147 N. Clay St., Louisville, Ky. LB **$1,564,700** general contract replanning, reconditioning;

B. J. Jacobs Co., Inc., 1729 John St., Cincinnati, O., LB **$598,860.** heating, ventilating and air-conditioning contracts for State CAPITOL, FRANKFORT, KY. State, State Capitol, Frankfort, Ky. Oberwarth & Livingston, 301 W. 2 St., Frankfort, Ky., archts. Bids June 18.

MIDDLE WEST

BIDS ASKED—HEAVY CONSTRUCTION

▲ **Ind., Anderson**—B.A. 7/21—At office Bd. P. Wks., Anderson, Contract 2, waterworks plant imprvs. Plans deposit $20; Contract 3, feeder mains, Plans deposit $20; Contract 4, branch feeder mains, Plans deposit $20; Contract 5, tank foundations and connections. Plans deposit $15; Contract 6, elevated tanks. Contract No. 6 may be received under deposit of Contract 5; Contract 9, piping materials; Contract 10, local water mains, Plans deposit $20. $1,250,000. Chas. W. Cole & Son, 220 West La Salle Ave., South Bend, Zone 5, engrs. and archts. CD 4/24.

SOON LETS CONTRACT—BUILDINGS

▲ **Mich., Livonia**—PLANT—At office Albert Kahn Associated Architects & Engineers, Inc., archt., 345 New Center Bldg., Detroit, soon lets contract spring and bumper plant, brick, steel, concrete office, mfg. bldg., separate power structure, 750,000 sq. ft. floor space for Chevrolet Div., General Motors Corp., 304 W. Grand Blvd., Detroit, Mich. $8,000,000. CD 4/30.

BUILDINGS

LOW BIDS AND CONTRACTS

▲ **L. I. Combs & Sons,** 2645 Wabash Ave., Gary, Ind., Owner Builds, **$5,000,000,** 500 HOMES along Chase and Taft Sts., GARY, IND. Awarded June 15. CD 1/30.

▲ **Red Seal Homes, Inc.,** 188 W. Randolph St., Chicago 1, Ill. Owner Builds, **$2,000,000** 170 HOMES in East Arlington Heights Area, ARLINGTON HEIGHTS, ILL. A. J. Del Bianco, 5501 W. Irving Park Ave., Chicago, Ill., archts. Awarded June 15.

▲ **Krahl Constr. Co.,** 350 N. Clark St., Chicago, 10, Ill. CA **$1,000,000,** OFFICE alterations, CHICAGO, ILL. Railway Exchange Bldg., 80 E. Jackson Blvd., Chicago, 4, Ill. Awarded June 17. CD 3/24.

▲ **Edward Gray,** 12233 Ave. O, Chicago, Ill. Owner Builds, **$5,000,000,** 97 luxurious HOMES adjacent to Olympia Fields County Club, Olympia Fields, CHICAGO HEIGHTS, ILL. Christopher & Chamales, 11 S. La Salle St., Chicago 3, Ill., and Richard Barancik, 919 N. Michigan Ave., Chicago 11, Ill., archts.

▲ **Creative Developers of Cook and Lake Counties,** c/o Whalley & Gould, archts., 3131 Lincoln Ave., Chicago, Ill. Owner Builds, **$2,500,000.** 150 HOMES, Berkeley Rd., HIGHLAND PARK, ILL.

▲ **McGough Bros.,** 1954 University Ave., St. Paul, Minn. LB **$3,895,000,** est. $3,000,000. brick, steel, concrete Hurley HOSPITAL addns., alterations, FLINT, MICH. City, Hurley Hospital Trustees, Flint, Mich. Bids June 9. CD 5/8.

WEST OF MISSISSIPPI

BIDS ASKED—HEAVY CONSTRUCTION

STATE HIGHWAY LETTINGS
BRIDGES
July 10 North Dakota July 14, 15 Texas
July 22 Montana
STREETS AND ROADS
July 10 Minnesota, North Dakota July 14, 15 Texas
July 22 Montana

▲† **Okla., Enid**—HANGAR—B.A. 7/9—U. S. Eng., Box 61, Tulsa, Zone 2, Lot 1, Maintenance Hangar E-15, $400,000-$750,000; Lot 2, 37,000 sq. ft. maintenance hangar and 21,500 sq. ft. base maintenance hangar, gasoline storage, utilities, etc., $750,000-$1,600,000, Vance Air Force Base. Inv. No. Eng. 34-066-53-127. Extended date.

SOON LETS CONTRACT—BUILDINGS

Tex., Houston — SHOPPING CENTER — Braes-Heights Center, Inc., 3738 Grammercy St., soon lets contract. 57,000 sq. ft. masonry shopping center, $850,000. Jos. B. Reynolds, 2480 Times Blvd., archt.

HEAVY CONSTRUCTION

LOW BIDS AND CONTRACTS

▲ **Associated Pipe Line Contractors, Inc.,** 3272 Westheimer St., Houston, Tex., CA. **$2,000.000.** gas transmission line from Bismarck to Fargo, NORTH DAKOTA. Standard Oil Co. of Indiana, 910 S. Michigan Ave., Chicago, Ill. CD 4/30.

▲ **TEXAS**—State Hy. Comn., Austin,

F. & C. Eng. Co., P. O. Box 2426, Houston, Tex., CA **$1,087,748,** grading, structures, H.B. & T. and T. & N. O. R. R. and Bennington overpass 0.919 mi. Hy. US 59, Proj. F 514 (11) and FG-514 (7), Harris Co. Bids June 16, awarded June 22. CD 6/23 under LB.

▲ **TEXAS**—State Hy. Comn., Austin,

Worth Constr. Co., P. O. Box 531, Fort Worth, Tex. CA. **$759,397,** c.conc. 0.826 mi. Hy. U.S. 81, Proj. UI 473 (9), Tarrant Co.;

M. B. Killian, 4600 Broadway, San Antonio, Tex., CA **$1,069,172,** c.conc. 0.49 mi. Hy. U.S. 81, Proj. UI 1083 (17), Bexar Co. Bids June 16, awarded June 22. CD 6/23, under LB.

▲ **TEXAS**—State Hy. Comn., Austin,

Heldenfels Bros., Rockport, Tex., CA **$684,823,** flexible base, asph. 10.718 mi. Hy. SH 35, Loop 81 and FM 632, Proj. F 377 (5), Aransas and San Patrico Counties;

Texas Bitulithic Co., P. O. Box 10365, Dallas, Tex. CA **$1,552,742.** c.conc 3.246 mi. Hy. U.S. 75, Proj. U 515 (9) Dallas Co. Bids June 17, awarded June 22. CD 6/23, under LB.

▲ **U. S. Eng.,** Box 1229, Galveston, Tex. cancelled bids to have been opened June 24, 15 dormitories **$1,850,000;** 3 utility bldgs., **$350,000;** relocation 29 bldgs., incl. outside water, sewer, gas and electric lines, **$300,000** Inv. No. Eng-41-243-53-116, Harlingen Air Force Base, HARLINGEN, TEX. CD 6/9.

BUILDINGS

LOW BIDS AND CONTRACTS

▲† **Mac Donald Constr. Co.,** 1310 S. Grand Blvd., St. Louis, Mo. LB **$1,808,236.** rehabilitation, modification of Bldg. No. 105 of Small Arms PLANT, 4300 Goodfellow Blvd., ST. LOUIS, MO. U.S. Eng., 601 Davidson Bldg., Kansas City 8, Mo. Bids June 19. CD 2/9.

▲ **Williams, Dunlap & Sturgis,** 7722 Eastern St., Dallas, Tex., CA. **$4,257,777,** construct, manage, finance, HOUSING at Wolters Air Force Base for U. S. Air Force, MINERAL WELLS, TEX. Federal Housing Admin.

Dependable Equipment for the Construction Industry

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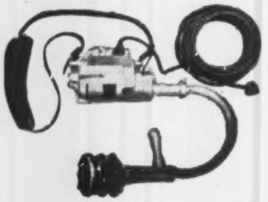

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COUNTY BLDG. MATERIAL CO., INC.
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(Housing & Home Finance Agency) Electric Bldg., Fort Worth, Tex. Bids Jan. 15. (**Correction**—contractors), CD 2/10, under CA.

FAR WEST

BIDS ASKED—HEAVY CONSTRUCTION

STATE HIGHWAY LETTINGS
STREETS AND ROADS

July 15, 16 California

▲ **California**—B.A. 7/16 or 7/23—Oakdale Irrigation Dist. and South San Joaquin Irrigation Districts, 322 D St., Oakdale,

Schedules, 1, 2 and 3, Donnells Dam, Tunnel and Powerhouse. Bids Apr. 16 rejected, LB **$16,572,600.** CD 4/20, under LB.

BIDS ASKED—BUILDINGS

▲ **Calif., Milpitas**—PLANT—B.A. 7/14—Ford Motor Co., 3000 Schaefer St., Dearborn, Mich. (selected list of bidders), automobile assembly plant. Total $35,000,000 to $50,000,000. Albert Kahn Associated Architects & Engineers, Inc., 345 New Center Bldg., Detroit, Mich., archt. and engr. CD 2/24.

▲ **Calif., Vacaville**—INSTITUTION GROUP—B.A. 7/28—State Div. Architecture, P. Wks. Bldg., Sacramento, main institution group, Units 2 and 3, Calif. Medical Facility, roads, drainage, etc. Plans deposit $100.

HEAVY CONSTRUCTION

LOW BIDS AND CONTRACTS

† **Morrison-Knudsen Co., Inc.**, 411 W. 5 St., Los Angeles, Calif., LB. **$1,990,792**, est. $2,028,935, earthwork, concrete lining and structures for Dome Canal and Unit 1 of Dome Distribution System, Gila Proj., Wellton-Mohawk Division. Spec. DC 3954, ARIZONA. Bureau Reclamation, Dpt. Interior, Yuma, Ariz. Bids June 16. CD 5/13.

▲ **M. H. Golden Constr. Co.**, 3485 Noel St., San Diego, Calif., CA, **$1,008,648,** Wabash Blvd. Section "B" Bridges, SAN DIEGO, CALIF. City, Civic Center, San Diego, Calif. Bids June 16. CD 6/19, under LB.

▲ **Judson Pacific-Murphy Corp.**, 4300 East Shore Highway, Emeryville, Calif., CA. **$3,062,216,** bottom lateral bracing for Golden Gate Bridge, SAN FRANCISCO, CALIF. Golden Gate Bridge & Hy. Dist., Box 99, Presidio Station, San Francisco, Calif. Bids June 12, awarded June 15. CD 5/51.

CANADA

BIDS ASKED—HEAVY CONSTRUCTION

STATE HIGHWAY LETTINGS
STREETS AND ROADS

July 10 Ontario

BIDS ASKED—BUILDINGS

▲ **N. B., Moncton**—WAREHOUSE—B.A. 7/7—General Motors of Canada Ltd., William St. E., Oshawa, Ont. 1 story, 20 ft. high, 229x314 ft., concrete slab on concrete columns, block, brick parts warehouse and 20-car garage, Church St. $1,000,000. A. Leslie Perry, 1434 St. Catherine St. W., Montreal, Que., archt. CD 6/20/52.

▲ **Ont., Toronto**—NURSES RESIDENCE, etc.—B.A. 7/6—Women's College Hospital, 76 Grenville St., nurses residence and training school, $4,140,000. Wallace, Carruthers & Assocs. Ltd., 35 Isabella St., engrs. Marani & Morris, 1250 Bay St., and J. E. Assheton Smith, 163 Wicksteed Ave., archts. CD 10/3.

BUILDINGS

LOW BIDS AND CONTRACTS

▲ **Tiffany Realty Co.**, Rideau St., Ottawa, Ont. Owner Builds, **$1,000,000,** 8 story, 129 suite APARTMENT BLOCK, Driveway and Argyle Ave., OTTAWA, ONT. J. M. Woolfson, 103 Augusta St., Ottawa, Ont., archts.

▲ **Shell Constr. Co.**, 380 St. Patrick St., Montreal, Que. Owner Builds. **$4,000,000.** 500 Ranch-type HOUSES near Aqueduct Blvd. VILLE LA SALLE, QUE.

ALASKA

HEAVY CONSTRUCTION

LOW BIDS AND CONTRACTS

† **ALASKA**—Alaska Road Comn., Dpt. Interior, 4 and Harris Sts., Juneau,

Oaks Constr. Co., Anchorage, Alaska, LB **$288,432,** grading, drainage, 19.84 mi. Glenn Hy. Sect. D3. Bids June 16. CD 5/18.

† **J. B. Warrack Co.**, 400 2nd Ave. W., Seattle, Wash., LB **$894,000,** 38,000 sq. ft. SCHOOL, PALMER, ALASKA, Alaska P. Wks., Dpt. Interior, Juneau, Alaska. Bids June 17. CD 5/22.

BUILDINGS

LOW BIDS AND CONTRACTS

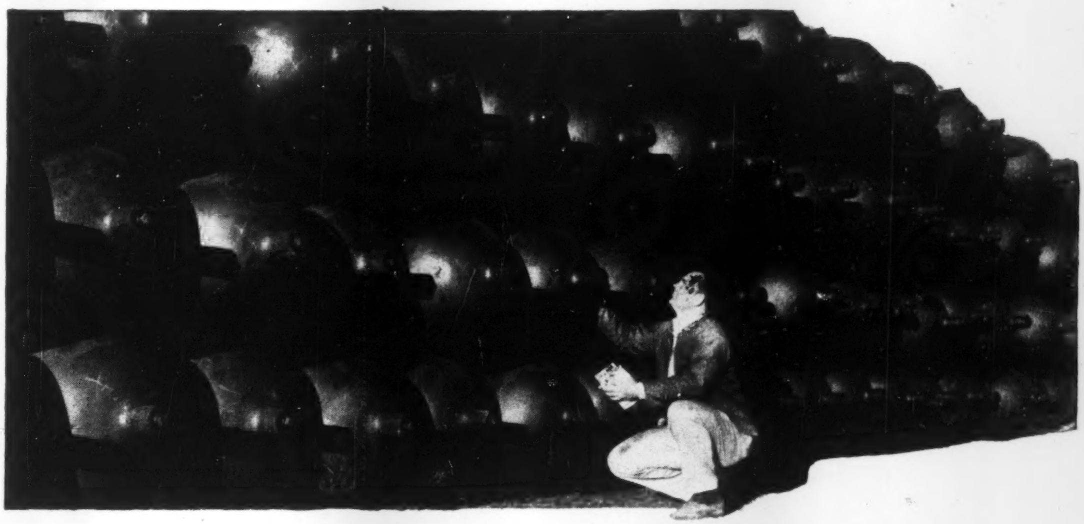
▲ **Hebb & Narodick Constr. Co.**, 232 Fourth Ave. N., Seattle, Wash. Day Labor. **$2,250,000.** 75 duplex HOUSING units in Weeks Field area, FAIRBANKS, ALASKA. CD 4/28.

▲† **Carson Constr. Co.**, Box 1153, Helena, Mont, CA **$2,780,770.** HIGH SCHOOL, Proj. 50-A-5, KETCHIKAN, ALASKA. Alaska P. Wks., Dpt. Interior, Juneau, Alaska. Bids June 9. CD 6/16, under LB.

(Proposal Advertisements see pp. 76 to 78)

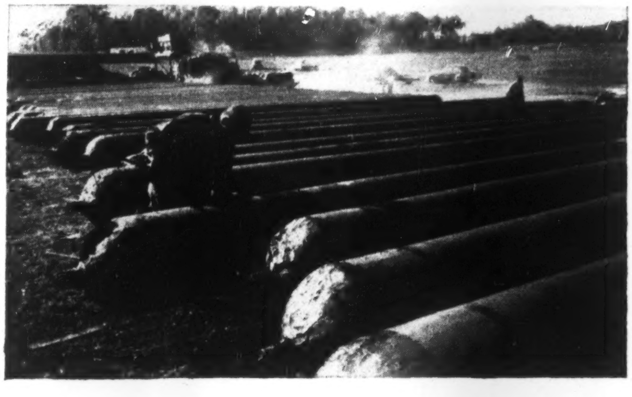
Store Gas the Modern Way in SEAMLESS STEEL BOTTLES

— safely underground



● Buried underground, National Seamless Steel Bottles offer enormous possibilities to utility companies for future high pressure gas storage for both normal and peak loads. They are unaffected by storms, high winds or lightning. And they are not a hazard to or from aviation.

Any fifty of the seamless steel bottles shown here, each averaging 39 feet in length and 24 inches in diameter, will hold 1¼ *million* cubic feet at 2240 p.s.i. Once installed in the ground, the bottles will not vibrate and settle like a surface installation. Also, since underground temperatures are relatively stable the year round, there is little or no fluctuation in gas pressure.



Unlike above-ground installations, Seamless Steel Bottles require little maintenance because they do not have to be painted periodically. Nor do they require constant inspection and protection against the elements. However, any bottle can be taken off the line at any time for repair without the gas pressure being interrupted.

When you are planning a gas storage system, consider these advantages of underground storage with National Seamless Steel Bottles. Since each bottle is pierced from a solid billet of high quality steel, there is no room for doubt where wall strength is concerned. And every bottle is hydrostatically tested at the factory to assure the utmost in strength, safety, and low maintenance.

Write today for further information about modern gas storage. Address: National Tube Division, United States Steel Corporation, 525 William Penn Place, Pittsburgh 30, Pennsylvania.

NATIONAL TUBE DIVISION, UNITED STATES STEEL CORPORATION, PITTSBURGH, PA.
COLUMBIA-GENEVA STEEL DIVISION, SAN FRANCISCO, PACIFIC COAST DISTRIBUTORS
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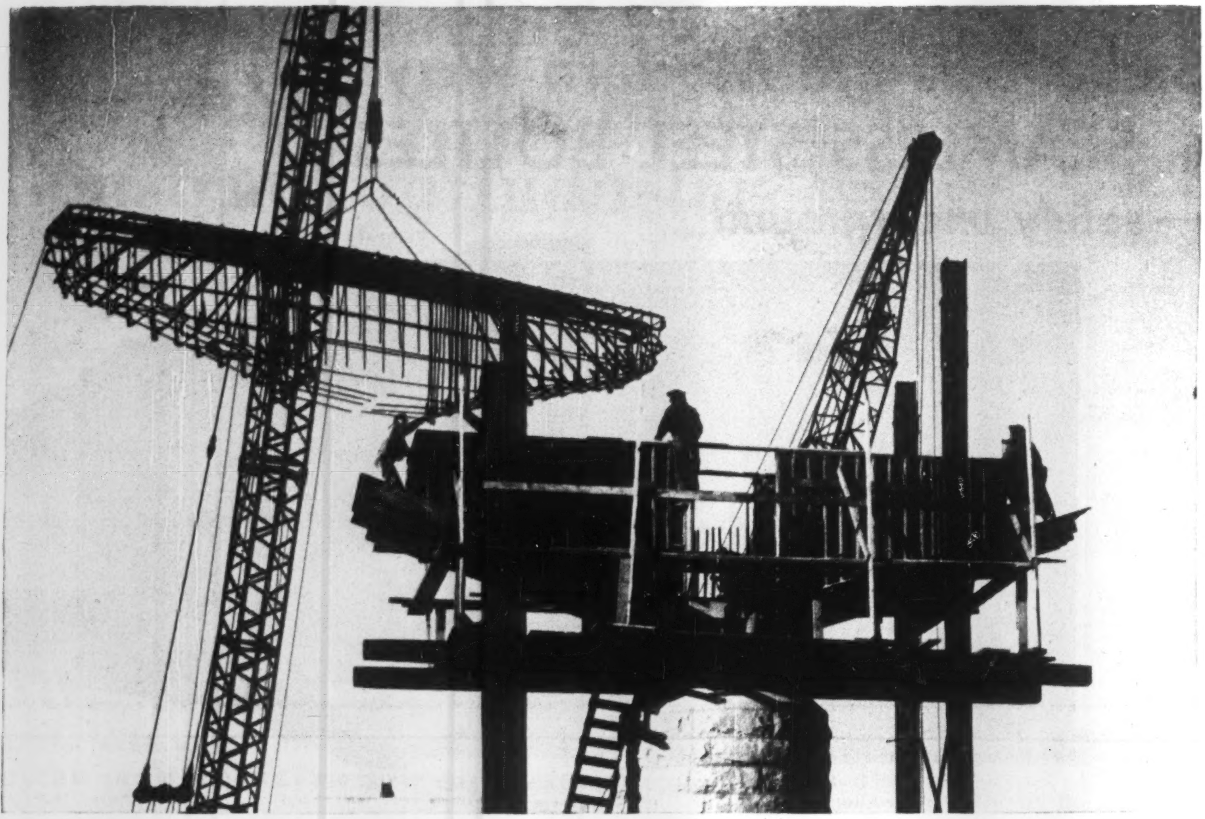
USS

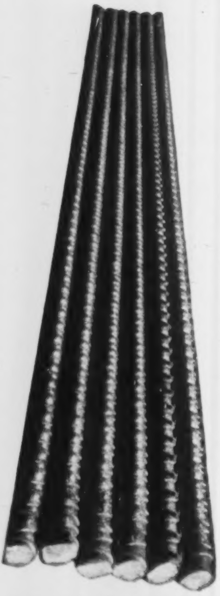
U·S·S NATIONAL SEAMLESS STEEL BOTTLES

UNITED STATES STEEL



Fabricated Bethlehem Reinforcing Bars, quickly assembled in the field, are being lowered into the forms of a bridge pier. Bars arrived on the job cut and shaped, ready for use.

THESE FABRICATED BARS SPEED CONCRETING JOBS



You're bound to speed concreting jobs when reinforcing bars arrive at your job-site, ready for instant placing. And you get this service when you specify Bethlehem Reinforcing Bars.

Bethlehem Bars are carefully fabricated to meet your specifications. Just tell us the size, shape, and tonnage you want, and the bars reach the job ready to go to work. They come sheared to exact length, accurately shaped on bending machines, bundled and tagged, with bar lists included.

Only new-billet steel is used in making Bethlehem Bars. They have high, closely-spaced lugs to give them a firm grip in concrete. You'll find that these lugs minimize slippage at working loads.

Try Bethlehem Bars on your next concreting job. For more information, call our nearest sales office—or write to us at Bethlehem, Pa.

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BETHLEHEM STEEL

BETHLEHEM REINFORCING BARS

UNIT PRICES

Water & sewerage utilities Rantoul, Illinois

Work is under way on five contracts totaling $1,391,514 awarded by the city of Rantoul, Illinois for water and sewerage utilities. Ernest Olsen of Marr, Green & Opper, consultants, Chicago, is the engineer. Twenty-four contractors bid on the five contracts with water mains and sewers drawing the highest number with thirteen and eleven bids respectively.

Water treatment utilities include: water mains; a 500,000-gal, elevated tank, 130 ft from ground to overflow; and a 1.6-mgd water treatment plant that contains lime-soda split treatment equipment, suspended solids contact units, and pneumatic bulk line handling equipment. Sewers and a 1.6 mgd sewage treatment plant with a separate sludge digestion trickling filter comprise the rest of the work.

Minimum wage rates on the project, which is to take one calendar year, are as follows: bricklayers, $3.50 per hr; plasterers, $3.08 per hr; shovel operators, $2.75 per hr; carpenters, $2.60 per hr; and common laborers, $1.95 per hr.

Bidders include:

Sewage Plant

1C	Felmley-Dickerson Co., Urbana, Illinois	$561,869
2	G. E. Tillman Co., Inc., Centralia, Illinois	561,905
5	Caldwell Eng. Co., Jacksonville, Illinois	695,675

Bids: 3-11-53

Item	Unit	Quantity	Unit Prices 1 C	2
Excavation	cy	6,300	$2 80	$4 50
Sand backfill	cy	2,000	8 50	3 00
Concrete	cy	2,500	60 00	55 00
Reinforced steel	t	150	225 00	225 00
Miscellaneous steel	lb	20,000	0 65	0 85
Filter drain	sf	24,600	1 45	0 90
Filter stone	cy	5,500	10 50	11 50
Sludge beds	sf	24,000	0 75	0 56
Control building	ls	1	15,688	28,285
Sewer, 24″	lf	150	10 00	8 15
8″	lf	300	4 00	4 80
Manholes	ea	2	360 00	350 00
External CI piping	lb	35,000	0 14	0 19
Internal CI piping	lb	48,000	0 54	0 40
Small piping	ls	1	1,125	1,150
Valves, 6″	ea	18	110 00	135 00
4″	ea	7	55 00	70 00
Check valves	ea	6	100 00	132 00
Sleeve valves	ea	8	200 00	375 00
Drain valves	ea	12	80 00	70 00
Stop gates	ea	15	9 00	25 00
Baffles	sf	200	0 35	175 00
Electric work	ls	1	19,500	15,000
Fence	lf	2,750	4 00	3 00
Road 1-11	sy	2,000	5 55	4 50
Road A-1	sy	3,000	4 15	4 00
Sidewalk	sf	7,000	0 71	0 25
Landscaping	ls	1	10,596	8,056
Water supply	ls	1	3,850	3,650
Flowmeter	ea	1	1,100	1,750
Comminutors	ea	2	5,600	5,910
Collectors	ls	1	14,250	19,000
Scum pipes	ea	2	410 00	900
Distributors	ea	2	7,650	10,000
Float cover	ea	1	18,400	26,000
Sludge heater	ea	1	6,500	9,000
Gas equipment	ls	1	1,960	1,730
Pump, 2000 GPM	ea	1	2,290	2,570
1100 GPM	ea	2	1,770	2,180
Intermediate pump	ea	2	1,660	2,275
Sludge pump	ea	2	1,510	2,860
Sump pump	ea	1	150	185
Water seal	ea	1	530	460
Electrical contr.	ls	1	6,430	6,900

Water mains

1C	E. A. Bock Const. Co., Fort Wayne, Indiana	$170,73
2	G. S. Chastain Const., Decatur, Illinois	174,651
13	S.N. Nielson Co., Chicago Illinois	339,509

Bids: 3-11-53

Item	Unit	Quantity	Unit Prices 1 C	2
Remove & replace unstable matter	cy	100	$1 50	$4 50
Brace & shore	mbm	10	100 00	400 00
Sand backfill	cy	400	4 00	3 50
Concrete pvmnt cross	lf	400	2 00	3 60
Brick pvmnt cross	lf	400	2 75	2 50
Railroad cross	lf	200	35 00	22 50
Sidewalk	sf	100	0 80	0 70
Water main, 12″	lf	12,000	5 90	6 25
8″	lf	14,000	4 05	4 15
Valves, 12″	ea	17	210 00	195 00
8″	ea	35	103 00	97 50
6″	ea	14	69 00	72 00
4″	ea	2	49 00	55 00
Valve basins	ea	68	200 00	180 00
Hydrants	ea	13	287 50	290 00
Connection, 12″ x 10″	ea	1	275 00	265 00
12″ x 8″	ea	4	250 00	195 00
12″ x 6″	ea	1	235 00	235 00
8″ x 6″	ea	18	212 00	155 00
8″ x 4″	ea	3	200 00	255 00

Elevated tank

1C	Chicago Bridge & Iron Co., Chicago, Ill.	$93,100
2	W. E. Caldwell, Louisville, Kentucky	94,100
3	Pittsburgh Des Moines Steel Co., Chicago, Ill.	94,500

Bids: 3-11-53

Item	Unit	Quantity	Unit Prices 1 C	2
500,000 gal elev tank & foundations	l	1	$93,100	$94,100

Water plant

1C	G. E. Tillman Co., Inc., Centralia, Illinois	$480,389
2	Felmley-Dickerson Co., Urbana, Illinois	488,529
4	Caldwell Engr. Co., Jacksonville, Illinois	617,095

Bids: 3-11-53

Item	Unit	Quantity	Unit Prices 1 C	2
Excavation	cy	7,500	$3 00	$2 05
Sand backfill	cy	500	2 25	7 20
Concrete	cy	1,400	50 00	61 00
Reinf steel	t	100	200 00	225 00
Building	ls	1	96,800	88,500
Sewer, 15″	lf	500	7 75	6 30
8″	lf	100	5 25	4 50
Manholes	ea	5	400 00	700 00
CI pipe, 16″	lf	300	16 30	12 50
12″	lf	100	13 75	10 50
8″	lf	150	11 75	7 00
4″	lf	220	5 40	4 50
Interior piping	ls	1	39,560	43,054
Electric work	ls	1	17,655	23,900
Roadway	sy	1,600	4 90	5 35
Plant equipment	ls	1	130,143	114,400
Bins & conveyor	ls	1	20,000	22,500
Electric controls	ls	1	14,250	29,000
Pumps	ls	1	24,900	17,800

Sewers

1C	Scalzitti & Till, Chicago, Illinois	$85,423
2	E. A. Bock Const. Co., Fort Wayne, Indiana	90,397
11	T. F. Cloghessy, Inc., Hammond, Indiana	167,622

Bids: 3-11-53

Item	Unit	Quantity	Unit Prices 1 C	2
Remove & replace unstable material	cy	100	$6 00	$3 00
Brace & shore	mbm	10	120 00	300 00
Sand backfill	cy	100	3 00	4 00
Conc pvmnt cross	lf	40	4 00	2 00
Conc cradle	cy	100	20 00	35 00
Conc headwall	ea	1	500 00	500 00
30″ sewer, 6′—8′	lf	1,140	9 65	8 40
8′—10′	lf	3,720	9 90	8 65
10′—12′	lf	360	10 65	8 90
24″ sewer, 18′—10′	lf	150	5 90	7 25
10′—12′	lf	650	6 15	7 50
12′—14′	lf	1,200	6 90	8 00
14′—16′	lf	400	8 30	9 00
16′—18′	lf	100	10 30	9 50
18″ sewer, 0′—6′	lf	100	4 00	5 35
6′—8′	lf	270	4 30	5 85
8′—10′	lf	140	4 80	6 10
10′—12′	lf	80	5 05	6 35
15″ sewer, 10′—12′	lf	400	4 65	5 95
Risers	lf	200	4 00	10 00
Manhole bases	ea	25	15 00	30 00
Manhole barrel	lf	250	17 50	30 00
Manhole covers	lb	12,000	0 12	0 12

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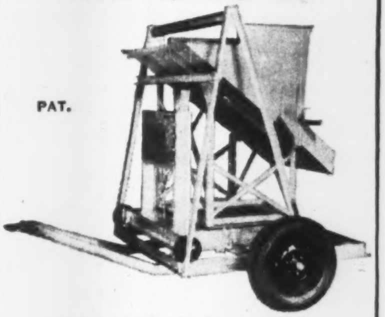

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—18″	11.50	10.50
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—36″	22.00	20.50
1x2—12″	6.15	5.60
—15″	6.60	6.00
—18″	7.50	6.50
—24″	9.00	8.00
—36″	12.00	11.00

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Contractor count shows 10% gain

Heavy constructors outpacing building firms in ENR census

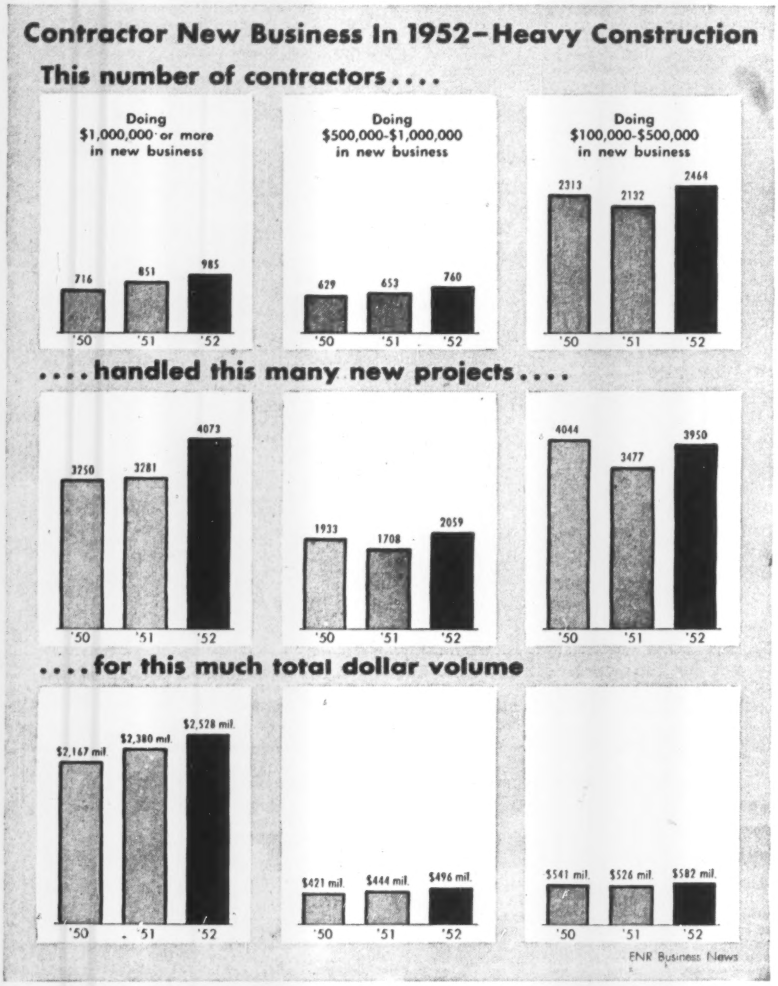
Everybody wants to get into the act. That's what is happening to the construction business. In the first place, there are more contractors. In the second place, they are developing more capacity and bidding harder on jobs. Besides surveying the current bidding situation (page 21), ENGINEERING NEWS-RECORD presents this week its count of contractors who signed up $100,000 or more in new business in 1952, along with the number and dollar volume of jobs they handled (charts).

During 1952, a total of 7,420 contractors got $100,000 or more of new business. This is 10% more than the number reported in 1951 to ENR and the Construction Daily. That 1951 total was itself 2% less than the number of contractors in that category in 1950 because of a shift in activity from commercial construction and private mass housing to industrial construction (ENR May 22, '52, p. 118). But in 1952 controls were relaxed, and there was a very strong pickup in the number of contractors engaged in mass housing and commercial and public building (table).

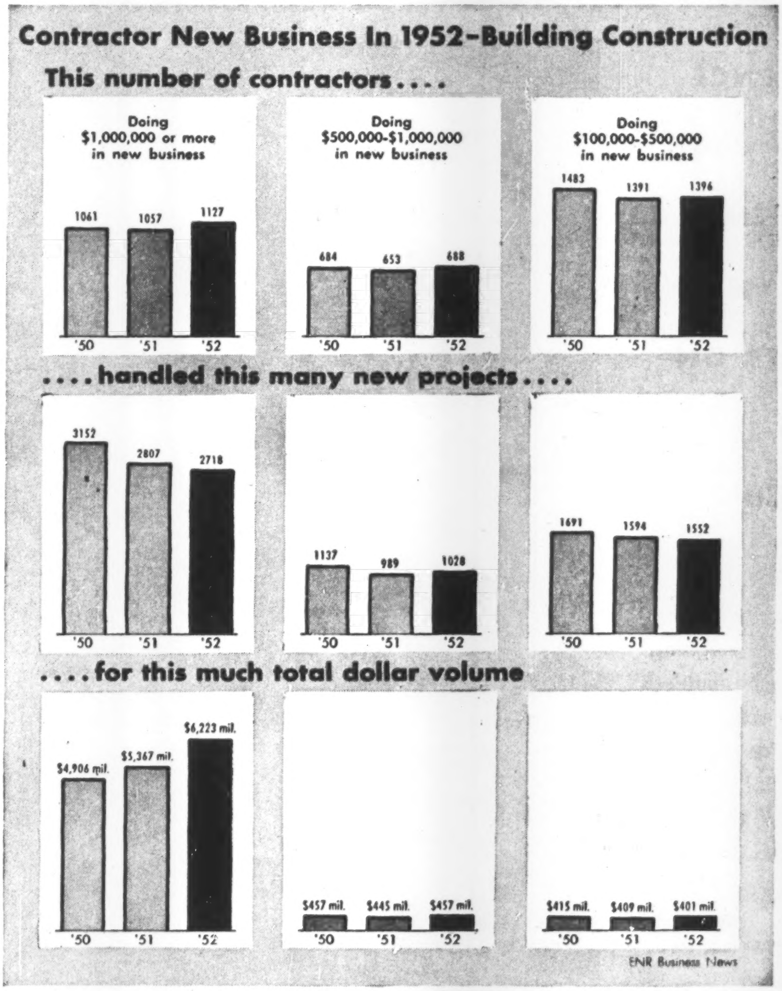
Along with this gain in the number of building contractors, nearly every category of heavy construction had big percentage gains. The total number increased from 3,636 in 1951 to 4,209 in 1952, accounting for most of the overall gain in contractor count.

• **11% more jobs**—These 7,420 contractors listed in 1952 took on 15,380 new jobs, 11% more than in 1951, for a total dollar volume of nearly $10.7 billion, 12% higher than in 1951. This figure differs widely from the $15.7-billion total of contract awards reported for last year by ENR, because it does not include owner-builders and contractors who got less than $100,000 of new business.

The biggest increase in the number of contractors came in the heavy-construction field, 16%. It's interesting that this 16% increase took place right across the board: in the group of contractors getting new business of from $100,000 to $500,000; in the $500,000 to $1 million group; and in



Type of Work	1—$1,000,000 or more						2—$500,000-$1,000,000					
	No. of contractors		No. of projects		Amt. of volume (millions)		No. of contractors		No. of projects		Amt. of volume (millions)	
	1952	% Change from '51	1952	% Change from '51	1952	% Change from '51	1952	% Change from '51	1952	% Change from '51	1952	% Change from '51
Heavy construction												
Waterworks	162	+ 8	267	+16	$121	+18	94	+40	149	+30	$28	− 3
Sewerage	167	+ 2	268	+ 2	127	−10	130	+30	236	+31	60	+15
Bridges	242	+17	353	+33	249	+25	85	+21	146	+21	32	+39
Streets, roads	523	+29	1994	+22	777	+49	430	+22	1099	+21	244	+20
Earthwork, irr	194	+13	294	+20	394	−17	77	+31	111	+18	32	+ 7
Airports	336	+20	596	+47	481	−16	129	+30	200	+56	65	+38
Unclassified	235	+30	301	+29	379	+ 9	83	−25	118	−28	35	−41
Total	985	+16	4073	+24	2528	+ 6	760	+16	2059	+21	496	+12
Building construction												
Industrial buildings	413	− 1	989	−17	2331	−25	186	−13	274	−13	74	−22
Mass housing, commercial and public buildings	945	+16	1729	+ 7	3892	+74	586	+11	754	+12	383	+ 9
Total	1127	+ 7	2718	− 3	6223	+16	688	+ 5	1028	+ 4	457	+ 3
All construction	2112	+11	6791	+12	8751	+13	1448	+11	3087	+14	953	+17



3—$100,000-$500,000						All three groups					
No. of Contractors		No. of projects		Amt. of volume (millions)		No. of contractors		No. of projects		Amt. of volume (millions)	
1952	% Change from '51	1952	% Change from '51	1952	% Change from '51	1952	% Change from '51	1952	% Change from '51	1952	% Change from '51
294	+14	379	+ 8	$44	+ 5	550	+17	795	+14	$193	+ 9
373	− 3	487	− 1	71	− 3	670	+ 3	991	+ 6	258	− 8
251	+21	333	+16	47	+21	578	+20	832	+23	328	+25
1134	+13	1798	+18	260	+16	2087	+18	4891	+20	1281	+35
185	− 1	226	−11	33	−11	456	+ 9	631	+ 6	459	−16
318	+56	362	+55	65	+38	783	+34	1158	+51	611	− 8
329	+16	365	+10	62	0	647	+12	784	+ 7	476	+ 2
2464	+16	3950	+14	582	+11	4209	+16	10082	+19	3606	+ 8
544	− 3	649	− 8	102	−10	1143	− 4	1912	−13	2507	−25
902	+ 3	903	+ 2	299	+ 1	2433	+10	3386	+ 6	4574	+59
1396	0	1552	− 3	401	− 2	3211	+ 4	5298	− 2	7081	+14
3860	+ 9	5502	+ 8	983	+ 5	7420	+10	15380	+11	10687	+12

the group with new business of $1 million or more. It shows a steady upgrading of heavy-construction contractors, in contrast with 1951 when the number of contractors in the $100,000-to-$500,000 group fell off from the previous year while the big contractors gained in numbers.

• Bigs gain—The number of contractors doing building construction climbed only 4% over 1951. This gain was among the bigger contractors; the number of those getting new business of from $100,000 to $500,000 stayed almost the same.

The average heavy-construction project was considerably smaller in 1952 than in the previous year, about $358,000 as compared with about $400,000. However, total dollar volume of these projects increased about 8%. The contractors in the $100,000-to-$500,000 group and the middle-sized contractors ($500,000 to $1 million) increased their share of the dollar volume, while the big fellows lost ground.

In contrast, the average building project increased from about $1,154,000 in 1951 to $1,336,000 last year. Total dollar volume of these projects increased about 12%. Here the big fellows (over $1 million) increased their percentage share of the total, while other groups fell off. A major reason for this trend was the $2.3 billion in atomic energy contracts let in 1952. The contractors in the $100,000-to-$500,000 group actually handled fewer projects, with a smaller total dollar volume.

Allis-Chalmers, Buda discussing merger

Allis-Chalmers Manufacturing Co., Milwaukee, maker of earthmoving equipment and many other industrial products, and Buda Co., of Harvey, Ill., are discussing a merger. Buda makes many types of engines, materials-handling equipment, earth drills, and railroad equipment.

The news came out when Buda sent stockholders a letter last week saying that it had started preliminary discussions. Neither company has much to say yet about reasons for the deal.

But it's obvious that Buda's products could fit in all sort of ways into Allis-Chalmers line.

Buda's sales for the year ended last July 31 were $40.5 million, and total assets were $21.4 million. In 1952, A-C had sales of $514 million, while year end assets were $359 million.

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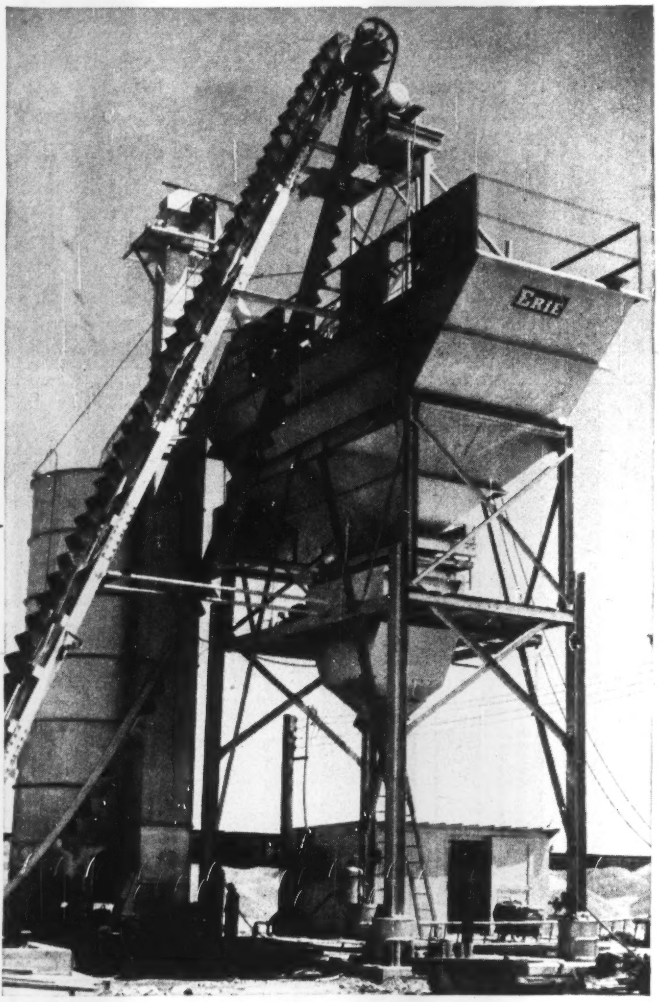

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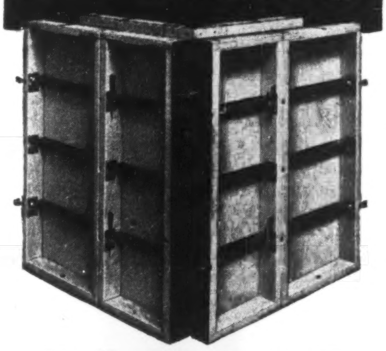

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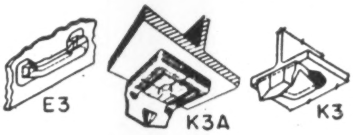

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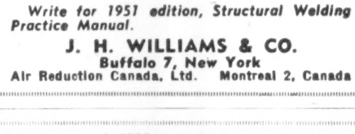

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BUSINESS AND FINANCE

New steel company starts: has big expansion plans

A brand-new steel company in Owensboro, Ky., is just getting into production, and has big plans for expansion. The company, Green River Steel Corp., is just completing a $13-million plant with a capacity of 20,000 tons of ingots a month. The plant will roll its own finished products from this basic steel, and has capacity to finish another 10,000 tons from other producers.

Green River's president, Sidney D. Williams, had financing from both government and private sources to build his plant. He says he expects the company will expand to three times its present size within five years. But of course expansion plans will depend partly on future government orders and partly on general demand for steel in the U. S. civilian economy, which could conceivably turn down.

Right now, though, the government is urging Green River Steel "to get going quickly to supply quality carbon steel for cold extrusion of ammunition components," according to Williams.

The new steelmaker says that Green River's books are filled with orders from companies in the automotive, aircraft, farm equipment, and oil producing fields.

Green River will make alloy and quality carbon steels of all kinds in blooms, billets, bars, and tube rounds. Scrap will come largely from Kentucky, Tennessee, and other parts of the South.

Republic to sell plastic

One of the big steel companies which has been looking over the possibilities of plastic pipe (ENR May 7, p. 37) has now made a definite move to get into the field. Republic Steel Corp., of Cleveland, announced last week that it has acquired a company that makes plastic pipe.

The company is Owings-Sharpe, Inc., Magnolia, Ark., which has been in business only a few months and makes plastic pipe and tubing in sizes from ½-in. to 6⅝ in.

Naturally, plastic pipe is competitive with steel pipe, so this move is official recognition by the steel industry that the plastic variety is better than steel for certain uses. Republic believes that it is the first steel firm actually to start selling plastic pipe as a supplement to its steel line, although several other major steelmakers are experimenting with plastic for use in some of their items.

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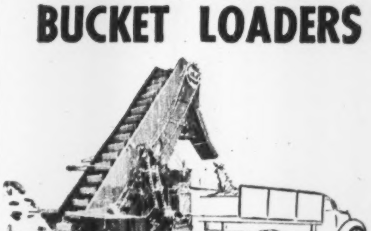

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Easier money?

Federal Reserve loosens up to help the Treasury

It is now pretty clear that the Federal Reserve System has been forced to call a halt in its hard-money policy, at least temporarily, because of the deficit problems facing the Treasury. That means you can figure interest rates will not go higher, and may go lower, for the next few months. It means that the mortgage market, which (to quote one top mortgage banker) is now in "probably the worst stalemate it has experienced in years," will ease somewhat. VA and FHA mortgages will be in greater demand. And it means that money to finance municipal public works will be easier to find than could have been expected earlier, considering the huge volume of work planned for the coming months.

For the last six weeks or so, Federal Reserve has been easing interest rates by buying government securities in the open market (ENR June 11, p. 104). Doing this gives banks more lending power, and tends to loosen up the whole bond market. Last week, the FRB lowered its reserve requirements for member banks, which released another $6 billion of potential bank credit.

In all three segments of the bond market—government, corporate, and municipal—prices responded by moving a little higher, which meant that interest rates moved a little lower.

One reason why FRB did this is because, starting in July or August, demand for short-term bank credit will increase seasonally and continue through the end of the year. But many Wall Street people figure that the Treasury's demand for credit is the dominating reason why the board has abandoned its hard-money principles for now.

Between now and the end of 1953, the Treasury will have to go into the market and borrow $30 billion or more. About $21 billion of this will be needed to refund maturing government securities. And Secretary of the Treasury George Humphrey figures he will need from $9 billion to $12 billion of "new money" to make up the difference between what the Treasury spends and what it takes in during the next six months.

In raising this $30-odd billion, Humphrey will have to compete with the still huge demand of corporations and local governments for new capital—much of which will be spent for construction. And he will have to compete with the demand of home buyers for mortgages.

The Treasury could raise its money by paying higher interest rates. But that would drive prices of existing bonds down and make holders of governments less willing to accept new securities in exchange for maturing ones, because they would be afraid that these new bonds would go down, too. The Treasury would have to pay out more and more cash, and get deeper into a financial hole.

Furthermore, higher rates on government bonds would drive up mortgage rates and the cost of corporate and municipal borrowing so far that it could turn the present business boom into a recession. That obviously would be bad politically.

So the Federal Reserve has decided to make more credit available for everybody. Many Wall Streeters are betting that FRB will continue to buy government securities right through to the end of this year in large-enough amounts so that the Treasury's needs can be supplied without boosting interest rates.

Gas industry tapers off

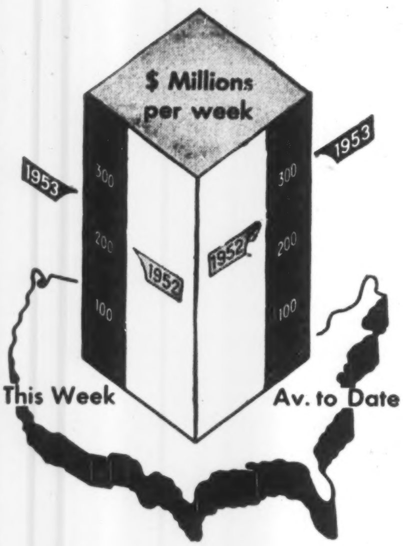
Gas utilities and pipelines are expected to spend a little less on new facilities during the four-year period 1953 through 1956 than they did in the four years from 1949 through 1952. In the earlier period, this fast-expanding industry spent nearly $4.7 billion, according to the American Gas Assn., against a $4-billion estimate for the next four years.

AGA also reported that the gas industry has already begun to taper off. It spent $1,067 million on new construction last year, about $105 million less than had been estimated originally. The 1953 estimate is $1.4 billion, about $250 million less than was scheduled a year ago. AGA gave as reasons for the drop: (1) The continuing delay in government approval of pipeline facilities for transmission of natural gas to the Pacific Northwest, and (2) the fact that some pipeline plans have been put on the shelf.

Of the $4 billion, about $1.9 billion will be spent on transmission work, around $1.4 billion on distribution projects.

Activity This Week

As reported to ENR
(in millions of dollars)



Amount of contracts let

	This Week	Cumulative 27 wks 1953	Cumulative 27 wks 1952	% chge
Federal	$30.6	$837.6	$1,108.3	−24
State and Municipal ..	89.9	2,668.2	2,234.9	+19
Total pub...	120.5	3,505.8	3,343.2	+5
Total priv...	135.6	4,722.0	3,662.7	+29
U. S. Total.	**$256.1**	**$8,277.8**	**$7,005.9**	**+17**

Contracts by type of work

	This Week	1953	1952	% chge
Waterworks .	$2.5	$129.3	$124.9	+4
Sewerage ...	5.1	202.0	138.4	+46
Bridges	17.8	398.2	205.5	+94
Highways ..	36.5	925.0	784.1	+18
Earthwork, Waterways.	7.1	223.2	289.4	+23
Buildings:				
Public, excl. hsg.	28.5	907.8	982.9	−8
Housg., pub.	4.7	272.5	439.5	−38
Housg., priv.	71.5	2,110.8	1,510.5	+40
Commercial	25.8	571.0	327.1	+75
Industrial .	26.2	1,490.3	1,539.8	−3
Unclassified.	30.4	997.7	663.8	+50
Total	**$256.1**	**$8,227.8**	**$7,005.9**	**+17**

NOTE: Minimum size projects included are: Waterworks and waterway projects, $34,000; other public works, $60,000; industrial buildings, $82,000; other buildings, $300,000.

ENR indexes	1953	Base Years = 100 1913	1926	1949
Construction	**Jun**	**593.35**	**285.22**	**124.39**
cost	May	589.21	283.23	123.52
Building	**Jun**	**426.65**	**230.63**	**121.28**
cost	May	426.47	230.54	121.23
Volume	**May**	**499**	**203**	**144**

Announcing . . . .

The 1953 Annual

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OFFICIAL PROPOSALS

APPEAR HERE EACH THURSDAY. PROPOSAL ADVERTISEMENTS ACCEPTED UP TO 10:30 A.M. FRIDAY FOR THE ISSUE DATED THE FOLLOWING THURSDAY.

Bids: July 29, 1953

Contract C-50
Contract C-51
Contract C-52
Contract C-50 & 51
Contract C-51 & 52
Contract C-50, 51 & 52

NOTICE TO BIDDERS

Sealed proposals will be received by the Ohio Turnpike Commission for the performance of each of the Contracts enumerated above.

The work covered by Contract C-50 consists generally of the construction of grading, drainage, structures and paving of approximately 4.1 miles in Construction Section 50 of Ohio Turnpike Project No. 1, beginning at a point about one half mile east of Brailey Road at Turnpike Centerline Station 1304+00 in Fulton County, and extending eastwardly to Turnpike Centerline Station 135+72.91 in Lucas County, and the furnishing of engineer's office and laboratory trailers and facilities at or near the site of the work.

The work covered by Contract C-51 consists generally of the construction of grading, drainage, structures and paving of approximately 3.8 miles in Construction Section 51 of Ohio Turnpike Project No. 1, beginning at a point about three tenths of a mile east of Brigham-Fraker Road at Turnpike Centerline Station 1108+00 and extending eastwardly to Turnpike Centerline Station 1304+00, all in Fulton County, and the construction and furnishing of engineer's office buildings and facilities on or near the site of the work.

The work covered by Contract C-52 consists generally of the construction of grading, drainage, structures and paving of approximately 4.2 miles in Construction Section 52 of Ohio Turnpike Project No. 1, beginning at a point about one third of a mile west of Heller-Lyons Road at Turnpike Centerline Station 885+72 and extending eastwardly to Turnpike Centerline Station 1108+00, all in Fulton County, and the furnishing of engineer's office and laboratory trailers and facilities at or near the site of the work.

The work covered by Contracts C-50&51; C-51&52; and C-50, 51&52, which cover various combinations of Construction Sections 50, 51 and 52, is the construction as above generally described for the individual Construction Sections in each combination contract.

In Construction Section 50 the principal structures to be built are three reinforced concrete culverts, and seven steel beam bridges of from three to four spans each supported on reinforced concrete abutments and bents. The abutments for these bridges and the bents for one bridge are to be on steel bearing piles, and the bents for six bridges are to be on spread footings.

In Construction Section 51, the principal structures to be built are one reinforced concrete culvert, and four steel beam bridges of four spans each supported on reinforced concrete abutments and bents. The abutments for these bridges are to be on steel bearing piles and the bents are to be on spread footings.

In Construction Section 52, the principal structures to be built are eleven steel beam bridges of from three to five spans each supported on reinforced concrete abutments and bents. The abutments for these bridges and the bents for one bridge are to be on steel bearing piles, and the bents for ten bridges are to be on spread footings.

Approximate quantities of major items of construction for Contract C-50 are as follows:

Roadway Excavation	216,000 cubic yards
Borrow	450,000 cubic yards
Structural Concrete	4,640 cubic yards
Reinforcing Steel	677,900 pounds
Fabricated Structural Steel (excluding furnishing and fabrication)	996,000 pounds
10" Reinforced Concrete Pavement	112,600 square yards

Approximate quantities of major items of construction for Contract C-51 are as follows:

Roadway Excavation	188,000 cubic yards
Borrow	190,000 cubic yards
Structural Concrete	2,850 cubic yards
Reinforcing Steel	353,000 pounds
Fabricated Structural Steel (excluding furnishing and fabrication)	599,000 pounds
10" Reinforced Concrete Pavement	105,000 square yards

Approximate quantities of major items of construction for Contract C-52 are as follows:

Roadway Excavation	445,000 cubic yards
Borrow	430,000 cubic yards
Structural Concrete	5,500 cubic yards
Reinforcing Steel	673,150 pounds
Fabricated Structural Steel (excluding furnishing and fabrication)	1,229,150 pounds
10" Reinforced Concrete Pavement	116,000 square yards

For each Contract, fabricated structural steel and expansion and/or contraction joints will be furnished by the Commission.

Copies of the Plans and General Specifications for said Contracts will be available on and after June 29, 1953 for public inspection or purchase at the office of the Chief Engineer, Ohio Turnpike Commission, 139 East Gay Street, Columbus 15, Ohio. These documents may be purchased from said Chief Engineer for the following sums, per set, which sums are non-returnable:

General Specifications for Ohio Turnpike Project No. 1	$ 5.00
Plans (also soil profiles and boring logs), per set, per construction section	15.00
Cross Sections, per set, per construction section	25.00

Forms or copies of all remaining Contract Documents, including Proposals for each of the Contracts set forth above, the Affidavit which must accompany any such Proposal, this Notice to Bidders, the Special Provisions applying to said Contracts, the Contract to be entered into with the (or each) successful Bidder, and the Contract Bond to be furnished with such Contract will be furnished upon request and without charge to any interested person at the aforesaid Chief Engineer's office on and after June 29, 1953.

All Proposals must be on the form prescribed by the Commission and must comply with the terms and conditions set forth in the Contract Documents.

Each Proposal must be accompanied by a certified check, or checks, on a solvent bank, or banks, payable to the order of the Ohio Turnpike Commission, in an amount not less than 5 percent of the amount bid, or, if the Bidder shall tender bids for more than one contract, said amount shall be not less than 5% of the highest total amount which could be the basis of an award or awards to him of any one or more of the above-enumerated contracts. The Commission may at any time cash any such check. Each such check, or the proceeds thereof, will be held by the Commission as a guaranty that, if any Proposal guaranteed thereby is accepted, a Contract will be entered into and the performance of the Proposal secured. Each such check, or the proceeds thereof, will be returned or forfeited as provided in paragraphs G-3.03 and G-3.06 of the aforesaid General Specifications provided that if there be a forfeiture, it shall be of an amount equal to 5% of the total amount bid in the Proposal with respect to which the forfeiture occurs, and any excess will be returned to the Bidder.

All bids must be received at or before 10:00 A. M., Eastern Standard Time, July 29, 1953, in the offices of the Ohio Turnpike Commission, 139 East Gay Street, Columbus 15, Ohio. At said hour, the bid box will be removed to the Neil House Hotel, 41 South High Street, Columbus, Ohio, where all Proposals will be publicly opened and read.

The award of any of the above-enumerated contracts, if any award be made, will be to the Bidder or Bidders whose Proposal or combination of Proposals is lowest and best for the performance of the work, taken as a whole, and complies with all the prescribed requirements. The Commission reserves the right to reject any or all Proposals and to waive technicalities.

OHIO TURNPIKE COMMISSION

(More Official Proposals on Pages 76-77 & 78)

Bids: July 29, 1953

Project No. G.S.A. 104-1

NOTICE TO CONTRACTORS

Bid Date—Wednesday, July 29, 1953
Time of Opening—12:00 o'clock Noon—
Eastern Standard Time
1:00 o'clock P.M.—Eastern Daylight
Saving Time

The General State Authority will receive at the above office sealed proposals, which will be publicly opened and read at above stated time for the Contracts listed below, which comprise all construction in connection with Project No. G.S.A. 104-1, FLOOD CONTROL DAM AND RESERVOIR, FIRST FORK SINNEMAHONING CREEK, CAMERON AND POTTER COUNTIES, PENNSYLVANIA; plans and specifications prepared by Gannett, Fleming, Corddry and Carpenter, Inc., Engineers, 600 North Second Street, Harrisburg, Pennsylvania.

	Bid Guaranty	Plans Deposit
Contract No. G.S.A. 104-1.1—General Construction	$200,000.00	$100.00
Contract No. G.S.A. 104-1.4—Electrical Construction	$3,000.00	$10.00

Each proposal must be accompanied by a Certified Check, Bank Cashier's Check, Trust Company Treasurer's Check or by a Bid Bond, on the form furnished by The General State Authority, as a bid guaranty payable to The General State Authority, in the amount designated above. SPECIAL NOTE: All checks for plans deposit and all Bid Bonds, Certified Checks, Bank Cashier's Checks or Trust Company Treasurer's Checks for Bid Guaranties, MUST be made payable to THE GENERAL STATE AUTHORITY.

Plans, specifications, contract document forms, and proposal forms not exceeding two (2) complete sets may be secured by prospective bidders by applying to The General State Authority, Harrisburg, Pennsylvania, and depositing the amount stated above, which deposit will be refunded only upon receipt of a bona fide bid, and return of all plans and specifications in good condition within ten (10) days after the opening of bids; otherwise, the deposit will be forfeited. Separate checks must be submitted for plans and specifications for each contract.

Plans and specifications may be reviewed free of charge at the offices of The General State Authority located at 18th and Herr Streets, Harrisburg, Pennsylvania.

PLANS AND SPECIFICATIONS WILL NOT BE FURNISHED UNLESS ABOVE PLANS DEPOSIT ACCOMPANIES REQUEST.

The General State Authority reserves the right to reject any or all bids and to accept or reject any part of any bid and to waive any defects or irregularities in bids.

All proposals on Contract No. G.S.A. 104-1.1 will be read prior to the reading of any proposals on Contract No. G.S.A. 104-1.4 and any Bidder submittting a proposal on both contracts may attach a written statement to his proposal for Contract No. G.S.A. 104-1.4 requesting that such proposal be withdrawn, or in the interval between the reading of proposals on both contracts any such Bidder present at the bid opening may request that his proposal on Contract G.S.A. 104-1.4 be withdrawn; but only in the event that he is not the lowest Bidder on Contract No. G.S.A. 104-1.1. In the case of such proposal withdrawal, the Bidder's BID GUARANTEE will be returned without forfeiture.

The dam chiefly consists of an earth-rock embankment approximately 170 feet high, a concrete intake structure 210 feet high, a 16 foot diameter concrete lined tunnel 1150 feet long, a concrete lined stilling basin 230 feet long, and a concrete lined spillway 260 feet wide.

The approximate quantities of the principal items of work included under Contract No. G.S.A. 104-1.1—General Construction, are listed as follows:

600,000 cubic yards—Stripping and Common Excavation
700,000 cubic yards—Rock Excavation
14,500 cubic yards—Tunnell Excavation
1,570,000 cubic yards—Earth Embankment
575,000 cubic yards—Rock Embankment
33,000 cubic yards—Concrete
1,140 tons—Reinforcing, Structural and Miscellaneous Steel roducts
12,000 lineal feet—Diamond Drilling and Pressure Grouting
260 foot long Concrete Spillway Bridge Intake Superstructure
100 ton Traveling Crane
Tractor type gates complete with guides, covers, conduit liners and service hoists for two 8 foot by 16 foot sluices.
Stream gaging tower, cableway and gagehouse.

The work involved under Contract No. G.S.A. 104-1.4 includes the extension of electric service from terminal pole of utility company into the intake structure and about the project site as required for interior and exterior lighting, heating of various portions of the intake structure, and the operation of traveling crane, sluice gates, water pumps and similar equipment. Equipment to be furnished under this Contract includes a 50 K.W. gasoline driven stand-by generator, control center, electric heaters, lighting fixtures, metal conduit and other electrical appurtenances.

WARREN W. HOLMES,
Acting Executive Director
The General State Authority

Bids: July 20, 1953

Trunk Sanitary Sewer for the City of Lancaster Lancaster, Pennsylvania

Sealed proposals will be received by the City of Lancaster at the office of the City Controller in the Municipal Building, Lancaster, Pennsylvania until 10:00 A.M., Eastern Daylight Saving Time, July 20, 1953, at which place and hour they will be publicly opened and read. Proposals shall include the furnishing of all necessary labor, materials and equipment, and performing all work for the construction of a Trunk Sanitary Sewer approximately 9500 feet long.

Each proposal shall be accompanied by a certified check or a bid bond in an amount of not less than (10 per cent of the bid total.

Copies of the Contract Documents, including Drawings and Specifications will be on file for inspection purposes only at the office of the City Engineer, Municipal Building, Lancaster, Pennsylvania; they may also be seen at the office of Gannett Fleming Corddry & Carpenter, Inc., Engineers, 600 North Second Street, Harrisburg, Pennsylvania, from whom they may be obtained, upon deposit of Twenty Dollars ($20.00) for each set. Full refund will be made to actual bidders only for return of one set in good condition within ten (10) days after closing date for receipt of bids; refund for return of all other sets, in good condition, within the same period, will be fifty (50) per cent of deposit.

City of Lancaster
Lancaster,
Pennsylvania

Gannett Fleming Corddry &
Carpenter, Inc., Engineers,
600 North Second Street
Harrisburg, Pennsylvania

Bids: July 9, 1953

MAINE TURNPIKE
Section 2—Portland to Augusta
(Augusta Extension)
BORINGS

Sealed proposals, addressed to the Maine Turnpike Authority, Box 839, Portland, Maine, and endorsed on the outside of the sealed envelope "Proposal for Borings—Contract No. ...." will be received by the Authority at its office in Portland, Maine (Construction Division at 17 Bishop Street), until 10:00 o'clock A.M. Eastern Standard Time on July 9, 1953, and at that time and place publicly opened and read.

The proposed work will consist of making subsurface exploratory borings and investigations along the route of the Maine Turnpike, Section 2—Portland to Augusta, including the sites of various proposed bridge structures. Bidders may submit proposals for the entire work (Contract 201) or for one or more of the following subsections:

Sub-Section A (Contract 201A) from Mile 42±, including South Portland Connection and Falmouth Connection, so-called, to Mile 65± in the town of Gray.

Sub-Section B (Contract 201B) from Mile 65± in the town of Gray to Mile 90± in the city of Lewiston.

Sub-Section C (Contract 201C) from Mile 90± in the city of Lewiston to Mile 107± in the city of Augusta.

The principal items of work consist of:

Type	Units	Estimated Contract Quantities 201A	201B	201C	Total 201
Type A Borings....	Linear Feet.	1900	2300	1300	5500
Type B Borings....	Linear Feet.	100	100	100	300
Auger Borings......	Linear Feet.	1500	1900	1600	5000
Core Borings.......	Linear Feet.	500	700	300	1500
Undisturbed Samples	Each......	4	4	4	12

Each proposal must be accompanied by a Certified or Cashier's check payable to Maine Turnpike Authority in the amount of five per cent (5% of the amount of the proposal, except that the amount of the check need not exceed $200.00 and shall not be less than $500.00, such check to be returned to the Bidder unless forfeited as hereinafter provided.

The Bidder to whom the contract is awarded will be notified to execute the contract within ten (10) days from the date of notification of award of contract, and should the Bidder fail to execute the contract within such period, the Authority may declare the acceptance null and void and the check accompanying the proposal shall be forfeited to the Main Turnpike Authority.

A contract bond will be required for the faithful performance of the contract in the full contract amount. The surety and form of bond must be satisfactory to the Authority.

Before the award of contract, any Bidder may be required to show that he has the necessary facilities, experience, ability and financial resources to perform the work in a satisfactory manner, and within the time specified.

Proposals must be made upon forms furnished by the Authority in the manner designated in the Specifications. Proposal forms, specifications, contract documents and special addressed envelopes may be seen and inspected by prospective bidders at the offices of the Maine Turnpike Authority, Construction Division, 17 Bishop Street in Portland, Maine, after June 25, 1953, and will be furnished to prospective bidders upon application and payment of $5.00 for each set, which payment is not refundable. Remittances should be payable to Howard, Needles, Tammen & Bergendoff.

The contract or contracts will be awarded or the proposals rejected within thirty (30) days from the date of opening proposals. The Authority reserves the right to reject any or all proposals, to waive any informalities, and to make awards without technicalities as to procedure.

MAINE TURNPIKE AUTHORITY
Joseph T. Sayward, Chairman

Bids: July 14, 1953

Shavertown Bridge Superstructure Contract 435

SEALED BIDS will be received by the Board of Water Supply, at its offices, thirteenth floor, 120 Wall Street, New York City, until 10:00 A.M., Eastern Standard Time, on Tuesday, July 14, 1953, for Contract 435, for the construction of the superstructure of the Shavertown bridge on the piers and abutments now being built under Contract 415, in the Town of Andes, Delaware county, New York, all as set forth in the specifications. The superstructure will consist of five spans of structural steel girders, the three middle spans each being 225 feet long, and each end span 150 feet in length, consisting of a cantilever 37 feet 6 inches and a suspended span 112 feet 6 inches in length. The deck of the bridge will be of reinforced concrete masonry with a roadway 28 feet in width and a sidewalk and steel railing at each side.

No bid will be received and deposited unless accompanied by a certified check upon a National or State bank, drawn and made payable to the order of the Comptroller of the City of New York, in the amount of forty-five thousand dollars ($45,000.00), for the proper execution of the contract.

At the above place and time the bids will be publicly opened and read. Pamphlets containing information for bidders, forms of bid and contract, specifications, contract drawings, requirements as to surety, etc. can be obtained in Room 1316, at the above address, upon application in person or by mail, by depositing the sum of five dollars ($5.00) in cash or its equivalent for each pamphlet. Within 30 days following the award of contract or rejection of bids, the full amount of such deposit will be refunded for each pamphlet submitted as a bid and a refund of four dollars ($4.00) will be made for each other pamphlet returned in acceptable condition. Arrangements will be made whereby prospective bidders desiring blueprints of the contract drawings for their own use may secure same, the cost thereof to be paid by them. For further particulars, apply at the office of the Chief Engineer at the above address.

IRVING V. A. HUIE, President, RUFUS E. McGAHEN, EDWARD C. MAGUIRE, Commissioners, Board of Water Supply; BETTY COHEN, Acting Secretary.

OFFICIAL PROPOSALS

Bids: July 9, 1953

New York State Road Work

NOTICE TO CONTRACTORS: STATE DEPARTMENT OF PUBLIC WORKS, ALBANY, N. Y.,—Pursuant to the provisions of the Highway Law, Public Buildings Law, and Article 2, Title 9 of the Public Authorities Law, and special provisions for projects financed with Federal Aid funds, sealed proposals will be received until ten-thirty o'clock A.M., advanced standard time, which is nine-thirty o'clock A.M., eastern standard time, on the 9th day of JULY 1953, by Henry A. Cohen, Director, Bureau of Contracts and Accounts, 14th Floor, The Governor Alfred E. Smith State Office Building, Albany, N. Y., for the following projects.

County	Contract No.	Name	Miles	Type	Deposit	Estimated Cost of Work
		DISTRICT No. 1 G. L. Nickerson, District Engineer, 353 Broadway, Albany 1, New York				
Albany	FARC 53-62	Loudenville-Menands, SH 1879, Project F-1105 (2)	0.92	Asp. Conc. Ty. 1-A, Opt.	$3,000 Plans $10	$50,000
Albany-Greene	FARC 53-64	Cooksburg-Cairo, Pts. 1&2, SH 8388 Project F-567(3)	8.83	Asp. Conc. Ty. 1-A, Opt	20,000 Plans $10	374,000
Greene	FARC 53-72 RC 53-73	Hunter-Jewett Center, S.H. 997; Hunter-Tannersville, S.H. 1242; Tannersville-Haines Falls, S.H. 1630; Project F-1104(2)	5.46	Asp. Conc. Ty. 1A, Opt.=4.48 Mi.; Asp. Conc. Ty. 1A, Opt. Widening=0.96 Mi. Misc. Work=0.02 Mi. Twin Conc. Box Br. 28′	62,000 Plans $15	1,128,000
Schenectady	MT 53-12 RC 53-83	New York State Thruway-Mohawk Sect. Sub. 1 (Gregg Rd.-Gordon Rd.); Interchange with S.H. 641; Schenectady-Rotterdam Jct. S.H. 641	2.88 Acc. 1.70 Thy.	9″ Cem. Conc. Pavt. 2 @ 25′ Var. Wide=4.58 Mi. Hy. Sep. Comp. I-Beam 53.5′ RR Sep. Built-up Beam-Girder 62′	140,000 Plans $50	2,585,000
Warren	FARC 53-69	Glens Falls-East Lake George, Pt. 1, S.H. 1666; Project S-1022(3)	3.94	Asp. Conc. Ty. 1-A, Opt.	6,000 Plans $10	111,000
		DISTRICT No. 2 L. Ketchum, District Engineer, 109 No. Genesee St., Utica, New York				
Fulton & Montgomery	FARC 53-76	Amsterdam City Connection, S.H. 9043; Northampton, S.H. 158; Old Plank S.H. 249; Johnstown-Broadalbin Pt. 2, S.H. 543; Project F-604(4)	6.89	Asp. Conc. Ty. 1-A, Opt.	20,000 Plans 10	363,000
		DISTRICT No. 3 William Robinson, District Engineer, Weigh Lock Bldg., Syracuse 1, New York				
Cayuga	FARC 53-67	Montezuma-Port Byron, S.H. 5610; Port Byron-Weedsport, S.H. 5609; Project F-534(3)	2.63	Asp. Conc. Ty. 1-A, Opt.	27,000 Plans $10	461,000
Onondaga	FARC 53-43	Collamer, S.H. 348; Syracuse-Bridgeport, Pt. 1 S.H. 672; Project F-U-994(4)	1.90	9″ Cem. Conc. Pavt. 2@24′ Wide=1.80 Mi. Misc. Work=0.10 Mi.	28,000 Plans $10	500,000
		DISTRICT No. 6 J. H. Thomas, District Engineer, State Office Building, Hornell, New York				
Steuben	FARC 53-70	Avoca-Wallace-Cohocton, S.H.5564; Project F-627(10)	2.50	Asp. Conc. Ty. 1-A, Opt.	$16,000 Plans $10	$286,00
Steuben	FARC 53-66	Bath-Hammondsport Pts. 1 & 2, S.H. 5517-5495; Project U-F-347(4)	4.85	Asp. Conc. Ty. 1A, Opt.=4.84 Mi.; Misc. Work=0.01 Mi.	70,000 Plans $15	1,185,000
Steuben	FARC 53-74	Greenwood-Jasper, S.H. 1758; Project S-418(1)	3.82	Asp. Conc. Ty. 1-A, Opt.	$19,000 Plans $10	322,000
		DISTRICT No. 7 R. W. Sweet, District Engineer, 444 Van Duzee Street Watertown, New York				
Jefferson	FARC 53-65	Jewettville-Dexter, S.H. 8015; Project S-53(2)	2.01	Asp. Conc. Ty. 1-A, Opt.	10,000 Plans $10	198,000
Lewis & St. Lawrence	FARC 53-68	Harrisville-Fine,Pts,1 &3,S.H.8337;Project F-382(5)	5.00	Asp. Conc. Ty. 1-A, Opt.	13,000 Plans $10	241,000
		DISTRICT No. 8 J. S. Bixby, District Engineer, Pleasant Valley Road, Poughkeepsie, New York				
Columbia	FARC 53-75 FASSH 53-10	West Taghkanic-Ancram, S.H. 9058; West Taghkanic-Bell Pond, S.H. 9088; Bell Pond-Claverack, S.H. 1919; Livingston-Hudson, Pt. 2A; Project S-388(1); F-587(6)	5.30	Asp. Conc. Ty. 1-A, Opt.	53,000 Plans $15	886,000
Ulster	B.A. 53-1	Kingston-Rhinecliff Bridge (Cont. 5) West Approach	0.67	Grading and Drainage	9,000 Plans $10	163,000
Westchester	H.T. 53-5 S.T. 53-25 R.C. 53-88	N. Y. State Thwy.-Hudson Sect. Subd. 9A, Tappan Zee Br., Tarrytown App., S.H. 9206, Broadway-Hastings-Dobbs Ferry-Mt. Pleasant-Tarrytown-No. Tarrytown; Van Wort Av., Sheldon Av.	0.88 Thy. 1.48 Acc.	9″ Cem. Conc. Pavt. 60′ & Var. Wide=0.47 Mi.; Asp. Conc. Ty. 1A, Opt.=0.25 Mi.; Grading=1.56 Mi.; Misc. Work=0.08 Mi.; Br. App. Span Composite I.B. Total Length 385′ Hy. Gr. Sep. Composite I.B. Total Length 277.56′	215,000 Plans $50	3,887,000
		DISTRICT No. 9 F. W. Donovan, District Engineer, 71 Frederick St., Binghamton, New York				
Chenango	FARC 53-71	Afton-Coventry, Pt. 1, S.H. 1171; Project S-668(2)	3.98	Bi. Mac. Type 1 (Pen. Meth.)	13,000 Plans $10	244,000
Chenango	FARC 53-77	Afton-Bainbridge, S.H. 5261; Project F-360(8)	2.69	Asp. C nc. Ty. 1A, Opt.	8,000 Plans $10	138,000
		DISTRICT No. 10 M. E. Goul, District Engineer, Montauk Highway at Little East Neck Rd., Babylon, L. I., New York				
Nassau	FASG 53-6	Peninsula Boulevard; Project SG-319(2)	0.66 R.R. 0.21 Hwy.	9″ Cem. Conc. Pavt. 2 @ 24′ Wide=0.20 Mi.; Misc. Work=0.01 Mi. RR Sep. Plate Girder 92.7′ Railroad Track Work=0.66 Mi. Br. Twin Box 21.2	50,000 Plans $15	853,000

Maps, plans, specifications and proposal forms may be seen and obtained at the office of the State Department of Public Works, Bureau of Contracts and Accounts, Albany, N. Y., and at the office of the District Engineers noted above, and may also be seen at the office of the State Department of Public Works, 270 Broadway, New York City.

The deposit for Plans and Proposal Forms for each contract is indicated above. A refund will be made in full to bidders for return of one set, in good condition, within 30 days of award, or rejection of bids; refund for all other sets in good condition, similar period, will be 50% of deposit.

Special attention of bidders is called to "General Information for Bidders" in the proposal, specification, and contract agreement, and to the special provisions applying to projects financed with federal funds. Award of a contract is subject to the "Controlled Materials Plan" of the National Production Authority as well as to regulations issued thereunder.

Proposal for each contract must be submitted in a separate sealed envelope with the name and number of the contract plainly endorsed on the outside of the envelope. Each proposal **must be accompanied** by draft or certified check payable to the order of the "State of New York, Commissioner of Taxation and Finance" for the sum as specified in the advertisement and the proposal. The retention and disposal of the bidding check, the execution of the contract and bonds shall conform to the provisions of the Highway Law, as set forth in "Instructions to Bidders."

When optional types are permitted on contracts with federal funds, bidders must state in the space provided in the proposal the exact designation of the optional type upon which the proposal is predicated.

The right is reserved to reject any or all bids.

B. D. TALLAMY
SUPT. OF PUBLIC WORKS

U. S. Government

Department of the Interior, Bureau of Reclamation. Sealed bids (Specifications No. DC-3980) will be received at Lindsay, California, until July 16, 1953, for furnishing labor and materials for earthwork, pipe lines, and structures, including pumping plants, Laterals 111.6W and 113.7W, and sublaterals, Unit 1, Delano-Earlimart Irrigation District, Friant-Kern Canal Distribution System, Central Valley Project. Location: Vicinity of Earlimart, Tulare County, California. Principal items are: Excavation and backfill pipe trenches, 256,000 cu. yds.; furnishing and laying 57 miles precast concrete pipe; furnishing and installing 92,000 lbs. steel pipe; and other work. Completion time 625 days. For particulars, address Bureau of Reclamation, Lindsay, California; or Building 53, Denver Federal Center, Denver, Colorado.

FRED G. AANDAHL, Assistant Secretary for Water and Power Development Department of the Interior

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NOTICE IS HEREBY GIVEN that sealed bids on Invitation No. 703S-311 for furnishing and delivering supervisory control and telemetering equipment for Alcova Power Plant and for reservoir releases, Kendrick Project, Wyoming will be mailed to P. O. Box 280, Casper, Wyoming or delivered to the office of the Bureau of Reclamation in time for the public opening at 2:00 p.m., Mountain Standard Time, July 7, 1953, at the office of the Bureau of Reclamation, Reclamation Center, Casper, Wyoming.

Copies of the standard forms and of the invitations may be obtained from the following offices of the Bureau of Reclamation: Avery A. Batson, Regional Director, Building No. 46, Denver Federal Center, Denver, Colorado; and I. J. Matthews, District Manager, P. O. Box 280, Casper, Wyoming. No charge for copies of the invitations furnished for bidding purposes; for all others $0.50 per copy, not returnable. Payments should be made by check or money order payable to the Treasurer of the United States.

FOR FASTER SERVICE

send all proposal advertising to Classified Advertising Division, 29th Floor, McGraw-Hill Pub. Co., Inc., 330 W 42nd St, N. Y. 36, N. Y.

OFFICIAL PROPOSALS

Bids: August 11, 1953

Filter Building, Weir Chamber, Wash Water Building, Switch House, and Office Building

NORTHEAST STATION
FOR THE
DEPARTMENT OF WATER SUPPLY
CITY OF DETROIT, MICHIGAN
CONTRACT NO. NE-6

Sealed proposals for the construction of the Filter Building, Weir Chamber, Wash Water Building, Switch House and Office Building for the Northeast Station, at 11000 East Eight Mile Road, will be received by the Board of Water Commissioners of the City of Detroit. Proposals shall be addressed to the Board of Water Commissioners, City of Detroit, Room 506 Water Board Building, 735 Randolph Street, Detroit 26, Michigan, and shall be endorsed "Proposal for Contract No. NE-6". Proposals will be received until 10:00 A.M. Eastern Standard Time, August 11, 1953, at which time they will be opened and read aloud in the Board Room, Fifth Floor, Water Board Building, 735 Randoph Street, Detroit 26, Michigan.

Included in the work is the construction, mainly upon existing reinforced concrete foundations, of the substructures and superstructures of the Filter Building, Weir Chamber, Wash Water Building, Switch House, Office Building, and appurtenant structures. The Filter Building, approximately 230 feet by 380 feet in plan, with under filter storage, will have 48 rapid sand filter units each with an effective area of 1089 square feet; the roof will be of the thin shell concrete barrel type. The one story Office Building will be constructed on the Weir Chamber which is approximately 51 feet by 245 feet in plan. The Switch House, approximately 59 feet by 143 feet in plan, will be a two story structure above grade. The Wash Water Building, approximately 30 feet by 140 feet in plan, will be four stories above grade, and will include two 50,000 gallon tanks, and miscellaneous mechanical and electrical equipment. The substructures are to be constructed of reinforced concrete, and the superstructures are to be constructed with reinforced concrete frames and slabs, masonry walls with limestone and granite facing and glazed tile interior finish. The work also includes the furnishing and installation of pumps, sluice gates, wash water troughs, rate controllers, filter underdrain system, drain lines, chlorine feed equipment, instruments and control equipment, complete heating, ventilating, plumbing and miscellaneous piping systems, electrical power and lighting.

The Contract Documents, including the Notice to Bidders, the Forms of Proposal and Agreement, the Specifications, and the Contract Drawings may be examined during business hours, at the office of the Department of Water Supply, Room 706 Water Board Building, Detroit, Michigan. The Contract Documents may be obtained by making a deposit of Seventy-Five Dollars ($75.00) per set, which sum will be refunded upon the return of the complete Contract Documents in good condition within thirty (30) days after the bid date, or if used in making a bona fide proposal.

Each proposal shall be accompanied by a certified check or a satisfactory bidder's bond in an amount not less than five per cent (5%) of the total lump sum price bid, drawn payable to the City of Detroit, Board of Water Commissioners, as security for the acceptance of the Contract.

No proposal may be withdrawn for at least sixty (60) days after the scheduled closing time for receipt of bids.

The Board of Water Commissioners reserves the right to waive any informality in any bid and to accept any bid, or to reject any or all bids, should it deem it to be in the best interests of the City of Detroit so to do.

CITY OF DETROIT
BOARD OF WATER COMMISSIONERS
George A. Schaffer, President
Alfred J. Simpson, Vice-President
Harvey A. Wagner
Oscar A. Wagner
L. G. Lenhardt, Superintendent,
General Manager and Chief Engineer
E. H. Bauer
Acting Secretary

READ THE OFFICIAL
PROPOSAL COLUMN OF
ENGINEERING NEWS-RECORD
THIS WEEK AND EVERY WEEK

OFFICIAL PROPOSALS

Bids: July 16, 1953

THE PORT OF NEW YORK AUTHORITY

Ladder Hoop Guards and Street Railings

PROPOSAL NO. 147
CONTRACT O&M-172

Sealed proposals for the furnishing and installing of ladder hoop guards and street railings at the Goethals Bridge and Outerbridge Crossing will be received at the office of the Director of Purchase of The Port of New York Authority, Room 900, 111-8th Ave., New York 11, New York, until 11:00 A. M. (E.D.S.T.), Thursday, July 16, 1953, at which time and place proposals will be opened and read.

Contract documents may be obtained upon request at the office of the Director of Purchase.

THE PORT OF NEW YORK AUTHORITY
Howard S. Cullman, Chairman
New York, July 2nd, 1953

Bids: July 16, 1953

Holland Tunnel

THE PORT OF NEW YORK AUTHORITY MOTORIZED OVERHEAD STEEL SECTIONAL DOORS, NEW JERSEY EMERGENCY GARAGE AND NEW YORK EMERGENCY GARAGE

PROPOSAL NO. 150
CONTRACT O&M-187

Sealed proposals for furnishing all labor, material and equipment to replace motorized overhead sectional doors at the New Jersey Emergency Garage and the New York Emergency Garage of the Holland Tunnel will be received at the office of the Director of Purchase of The Port of New York Authority, Room 900, 111-8th Ave., New York 11, until 11:00 A.M.(E.D.S.T.), Thursday, July 16, 1953, at which time and place said proposals will be publicly opened and read.

Contract documents may be obtained upon request at the office of the Director of Purchase.

THE PORT OF NEW YORK AUTHORITY
Howard S. Cullman, Chairman

U. S. Government

DEPARTMENT OF THE INTERIOR. Bureau of Reclamation. Sealed bids (Specifications No. DC-3981) will be received at Huron, South Dakota, until July 23, 1953, for furnishing labor and materials for Sioux City Substation, Transmission Division, South Dakota, Missouri River Basin Project. Location: 2 miles southwest of Hinton, Iowa. Principal items are: Excavation, 34,900 cu. yds.; furnishing and placing reinforcement, 36,000 lbs.; furnishing and erecting steel structures, 175,000 lbs.; constructing service building, lump sum; and other work. Completion time 580 days. For particulars, address Bureau of Reclamation, Huron, South Dakota; or Building 53, Denver Federal Center, Denver, Colorado.

FRED G. AANDAHL, Assistant Secretary for Water and Power Development Department of the Interior

Make Plans Accessible to Distant Bidders

Plans and specifications for inspection by distant bidders may be filed at any of ENGINEERING NEWS-RECORD offices without charge. Or a sufficient supply may be deposited at such of our offices as seem desirable subject to your usual requirements in the matter of deposits, etc. (We assume full responsibility for return of plans or collection and return of deposits).

SEARCHLIGHT SECTION

This index is published as a convenience to the reader. Every care is taken to make it accurate but SEARCHLIGHT SECTION assumes no responsibility for errors or omissions.

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OFFICIAL PROPOSALS

RATE: The rate for Official Proposal Advertising is $1.00 per line (or fraction) per insertion.

COPY RECEIVED: up to 3:00 P.M. Friday for issue out following Thursday subject to space open for last minute ads.

SEND COPY: to Official Proposal Division, Engineering News-Record, 330 W. 42nd St., New York 18, N. Y.

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AN ADVERTISING INCH is measured ⅞ inch vertically on one column, 3 columns—30 inches—to a page. E.N.R.

Send NEW ADVERTISEMENTS: To New York City Office, 330 W. 42nd St., N. Y. 36 for July 16th issue closing July 6th

SALARIED POSITIONS $3,500—$35,000
We offer the original personal employment service (established 43 years.) Procedure of highest ethical standards is individualized to your personal requirements. Identity covered; present position protected. Ask for particulars.
R. W. BIXBY, Inc., 272 Dun Bldg., Buffalo 2, N.Y.

REPLIES (Box No.): Address to office nearest you
NEW YORK: 330 W. 42nd St. (36)
CHICAGO: 520 N. Michigan Ave. (11)
SAN FRANCISCO: 68 Post St. (4)

POSITIONS VACANT

WANTED—EXPERIENCED miners for sewer tunnel, in clay type earth formation, at Charleston, West Virginia. Contact Nance & Vivadelli, 2420 Wilson Boulevard, Arlington, Virginia. Jackson 7-7749.

PLAN ENGINEER: Duties include preparation of master plan and zoning maps, preparation of plans and specifications for public works, and other related work under direction of the City Engineer. Qualifications: Degree in Civil Engineering from a recognized college or university or five (5) years experience in civil engineering or municipal work. Starting salary $300.00 per month. Applications must be received by July 31, 1953. Apply to City Engineer, City of South Milwaukee, Wisconsin.

PERMANENT POSITION with a progressive Western Ohio outfit available to a civil engineer, 30 to 40 years old. Position requires occasional travel. Experience in hydraulics desirable but not necessary. Applicants please give complete information including experience, current and past earnings, together with age, marital status, height, weight. Photograph optional. P-8289, Engineering News-Record.

IRRIGATION ENGINEER—For Manager of operating irrigation system, Arizona. Permanent position intended. Age 30-50 desired with background of irrigation construction and management. Salary open. Submit experience record, references and salary requirement first letter. P-8291, Engineering News-Record.

WANTED CONSTRUCTION Engineer and Estimator by General Contracting firm located in eastern West Virginia. Must have experience in estimating all types of construction, purchasing and expediting material. If interested, advise age, education, salary desired. This is an excellent opportunity. P-8312, Engineering News-Record.

PROJECT MANAGER—1½ hours from Washington. Good opportunity for competent Engineer with Contractor's experience, write full details. P-8313, Engineering News-Record.

RESIDENT ENGINEER and Engineer-Inspector of river intake, pump stations, water treatment plant, water mains, elevated storage tanks, and reservoirs—two (2) year program for the City of Logansport, Indiana. Construction to start about August 1, 1953. Submit applications and experience record with salary requirements to Mr. Robert Price, Supt. of Utilities, City Hall, Logansport, Indiana immediately.

ESTIMATOR WANTED by General Contractor located in Tidewater, Virginia. Applicant must be experienced in estimating all types of General Building Construction. Advise age, education, experience and salary desired. Must be on job July 15, 1953. P-8328, Engineering News-Record.

ESTIMATOR, PERMANENT position with long established Contractor in Western New York. Must be experienced in industrial construction, commercial and general construction. Do not apply unless you are thoroughly familiar with present day prices and able to make up complete estimate on large projects. Excellent salary for top man. Submit full resume stating education, experience, age, availability and salary expected. All will be held in strict confidence. P-8353, Engineering News-Record.

ENGINEERS
Structural, mechanical, and electrical for work on hydro-electric power developments. Write giving full experience record and qualifications.
HARZA ENGINEERING COMPANY
400 West Madison Street Chicago, Illinois

WANTED
An Alert Mechanical Engineer with Some Knowledge of Electrical Engineering . . . Must Be a Good Calculator . . .
PHILIPS & DAVIES, INC.
KENTON, OHIO

POSITIONS VACANT

SALES MANAGER: Fine opportunity for right man with substantial company engaged in construction equipment field. To qualify must have experience in all branches of sales management including initiating product improvement and new products programs, directing field sales organization, building sound distributor organization and some knowledge of advertising and market forecasting. Send full particulars covering experience, education, etc. to P-8358, Engineering News-Record.

OPPORTUNITY FOR an energetic engineer with sales personality, 25 to 35 years of age, for sales work with company Engineering and Rental Service. General Construction experience and some Engineering college training essential. Give full details in first letter to R. P. Wilkinson, Economy Forms Corporation, 4301 N.E. 14th St., Des Moines 13, Iowa.

CIVIL ENGINEER wanted as engineer in heavy construction contractor's field office. Should have about 3 to 5 years' experience and must be able to compute quantities, make simple layouts and generally assist project engineer. Permanent position with excellent chances for advancement as many of our executives worked up from this position. Location Western Maryland. Please state age, education, short experience outline and salary wanted. P-8337, Engineering News-Record.

CIVIL ENGINEER Party Chief for construction survey on hydro-electric powerhouse project. Must be experienced and capable of handling survey party and completing layout of precise controls based on general instructions and with minimum of supervision. Above average pay dependent upon performance. Regular 48 hour week. No age limit. Must be able and willing to work from substructure through superstructure without limitation. Project has three years completion. Submit personal qualifications, experience record and minimum salary requirement to contractor. Donovan-Levering-Boyle, P. O. Box 777, Pickstown, South Dakota.

HIGHWAY ENGINEER, not over 40, fast and accurate, for layout work, computing quantities, permanent employment. Salary $6,500. per year. P-8371, Engineering News-Record.

MECHANICAL DESIGNERS. New division of nationally-known, financially-sound company offers attractive permanent positions to several practical machine designers able to conceive, plan, detail, fabricate and follow-up special machinery to produce concrete pipe. Graduate mechanical engineers preferred but will consider others with suitable practical experience. These positions provide ample challenge, responsibility, freedom of action, and unusual growth possibilities to interest the type of man we want. P-8324, Engineering News-Record.

(Continued on the following page)

EXPERIENCED STRUCTURAL STEEL DETAILERS AND CHECKERS

Permanent position with plenty of overtime; excellent working conditions in air conditioned drawing room. Paid holidays and vacation; liberal retirement pension benefits, life insurance. Give age, qualifications and phone number in first letter.

THE INGALLS IRON WORKS CO.
POST OFFICE BOX 2632
BIRMINGHAM, ALABAMA

PROJECT SUPERINTENDENTS
Must have experience
in construction of
OIL REFINERIES
FOR IMMEDIATE ASSIGNMENT
ON FOREIGN OR
DOMESTIC WORK
SALARY + LIVING ALLOWANCE

Write—Furnish complete job breakdown of ALL past positions, names of employers, where, etc.

ARTHUR G. McKEE & CO.
2300 Chester Avenue Cleveland 1, Ohio

ENGINEERS - GEOLOGISTS
Technicians experienced in Soils—Concrete and Asphalt Control Work.
Also
Graduate Engineers with P.E. Registration having extensive experience in Soils—Concrete and asphalt. Give complete details including salary.
TOLEDO TESTING LABORATORY
1810 No. 12th St. Toledo 2, Ohio

SANITARY ENGINEERS
California offers positions with opportunity for professional advancement. Two years experience related to treatment and disposal of sewage and industrial waste, plus college engineering degree. Salary $395 to $481. Write today. Dept. PH-2, Recruitment Section, State Personnel Board, 1015 L St., Sacramento, Calif.

WANTED

Experienced concrete road Superintendent and also Foreman on road work. Permanent position for capable and dependent men. Location — Central New Jersey. Please give age, experience and references.

P-8276, Engineering News-Record
330 W. 42 St., New York 36, N.Y.

WANTED—An experienced
CONSTRUCTION SUPERINTENDENT

To supervise erection of a 50,000 KW, 1450 psi addition to a power station and also a construction accountant for this work. Estimated time for construction 12 to 18 months. Construction to start January, 1954.

P-8139, Engineering News-Record
520 N. Michigan Ave., Chicago 11, Ill.

POSITIONS VACANT
(Continued from preceding page)

WANTED CONSTRUCTION Superintendent for work in Kansas, with experience in institutional and office buildings, industrial type buildings and government projects. Must be capable of taking complete charge of work. State starting salary, age and when available. P-8333, Engineering News-Record.

PARTY CHIEFS, Instrument men. Thorough knowledge general survey work, rectangular system. Ready in 30 days. Several months work W. Coast Florida. P-8257, Engineering News-Record.

SELLING OPPORTUNITY OFFERED

SALES ENGINEERS—Several territories in Mid-Atlantic States with established National concern selling prefabricated metal products to engineering and construction markets. Positions offered are permanent and present excellent future with aggressive, progressive and expanding organization. Engineering degree desirable. Previous sales experience unnecessary. Age 24 to 30. SW-8254, Engineering News-Record.

EMPLOYMENT AGENCIES

WANTED ENGINEERS, Designers, Draftsmen-Structural, Piping, M.E., C.E., E.E., and Industrial, also Teachers and Chemists, Cleveland Engineering Agency, 2132 E. 9, Cleveland.

POSITIONS WANTED

CHIEF ACCOUNTANT—Office Manager seeks position in Latin America; 10 yrs. experience in Latin America; 10 yrs. experience in L.A. countries on engrg. and construction projects handling accounting, office management, legal liaison work. Fluent Spanish. Also 10 yrs. accounting experience in U. S. Age 43, married. PW-8330, Engineering News-Record.

CONSTRUCTION SUPERINTENDENT. Concrete Pipe Manufacture, considerable experience. PW-8335, Engineering News-Record.

MECHANICAL ENGINEER desires foreign employment preferably in Europe or Latin America. Primarily interested in supervisory or administrative position. 15 years heavy experience in power, mining, construction and general engineering. Age 34, married, 1 child. Previous Latin American experience. Spanish speaking. Presently employed by large construction company. Available on short notice. Excellent references. Inquiries invited. PW-8368, Engineering News-Record.

GENERAL SUPERINTENDENT — Available now. Age 44, 23 years experience Industrial, Commercial and Public Works. Desires permanent position of responsibility and advancement opportunity. Excellent References. PW-8372, Engineering News-Record.

GENERAL SUPERINTENDENT: 30 yrs. experience dirt moving, hard rock, sewers, bridges, highway paving, foundations, industrial buildings. Mass concrete, a combination of building & heavy construction. Very cost conscious, available at once. PW-8211, Engineering News-Record.

CIVIL ENGINEER, 34, P.E. & L.S. in N.J., Hudson Co. resident, wishes engineering business participation in N. J. PW-8344, Engineering News-Record.

American Civil Engineer

Nine years experience in Venezuela, completely Bilingual, experience with Oil Company installations, field and office in heavy construction, export sales, Structural design desires work in Latin America.

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4908 Correos del Este Caracas

FIELD ENGINEER AVAILABLE

25 years of field experience. Charge of surveys, soils investigations, resident on construction, construction planning. Highways, airports, housing, mine installations. Alert, energetic, tactful. Some Spanish, French. Go anywhere. Now finishing foreign job as project engineer.

PW-8318, Engineering News-Record
330 W 42 St., New York 36, N. Y.

POSITIONS WANTED

ENGINEER REG. P.E. Arbitration of contractors' claims. Reports. 45 years experience, design, construction. Turnpikes, Tunnels, Schools, etc. PW-8219, Engineering News-Record.

CONSTRUCTION ENGINEER—Qualified journeyman in several trades. Completely experienced in material takeoff, schematic and shop drawings, cost analysis, designing, estimating and superintending the construction of bridges, hospitals and industrial construction. PW-8230, Engineering News-Record.

CONSTRUCTION SUPERVISOR: 40, drainage, grading, paving, project experience on highways, airdromes, earhworks. Reply PW-8126, Engineering News-Record.

WORK WANTED

Quantity Take-Off for all trades. Estimates, shop drawings & Designing. Complete service. Licensed Engr.—N. Y. Inquiries confidential. WW-8369, Engineering News-Record.

BUSINESS OPPORTUNITY

Opportunity for experienced ,registered surveyor to get into business for himself in large city in Michigan. Small amount of cash needed. Will give ample assistance, BO-8308, Engineering News-Record.

FOR SALE
TWO MOBILE REPAIR SHOPS

Designed to provide mobile facilities for maintenance and repair of construction and industrial equipment; vehicles, disaster and civil defense services, etc. Test used only, equal to new. Write

EXPORT TRADING CO.
1921-½ Talmadge Ave., Los Angeles 27, California.

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Approximately
50 WELDING MACHINES

Gas Engine & Electric Motor Driven. Used. Also welding cable & Nelson Stud Welding Units.

ES-7615, Engineering News-Record
520 N. Michigan Ave., Chicago 11, Ill.

FOR SALE—PRICED RIGHT
100,000 sq. ft. Used "Uniform" Panels
Assorted Sizes—Reasonably Good Condition
SOUTHEASTERN-LOVING-DOYLE AND RUSSELL
Fort Knox, Kentucky

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Buda Model HBD-drills 13" to 24" holes up to 22' deep, gas engine, mounts on truck, skids or railroad push car. Used very little, first class condition $2,000.00

List & Weatherly Const. Co.
231 W. 47th St., Kansas City, Mo.

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STRUCTURAL ENGINEERING
ARCHITECTURAL ENGINEERING

OUR COURSES of instruction by mail HAVE HELPED THOUSANDS to better positions and to pass State Board Examinations [illegible] Forty third year. [illegible] obligation

WILSON *Engineering Corp.*
College House Offices HARVARD SQ., CAMBRIDGE, MASS

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INDUSTRIAL PLANTS

Will arrange thru purchase of (1) Capital stock, (2) Assets, (3) Machinery and equipment, whole or in part—Personnel usually retained, strict confidence. **Box 1351**, Church St. Sta., New York 8, N. Y.

WANTED
Portable Crushing and Screening Plant

10 x 36 jaw, 4 x 12 screen, 30" belts, 40 x 22 roll, deisel power, not over 5 years old. Cedarapids or equal.

W-8336, Engineering News Record
520 N. Michigan Ave., Chicago 11, Ill.

AIR COMPRESSORS
SCHRAMM PORTABLE

60, 105, 210, 315 & 600 CFM Gasoline or Diesel Engine Driven Paving Breakers. Sale or Rent.

DIESEL MOTORS COMPANY
Port Washington, N. Y. PO 7-2000

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1½ yd Koehring 605 Diesel Crane 140' bm. GM Diesel. Long Tracks.
30 ton Industrial Brownhoist Gas Locomotive Crane. 70' bm.
200 HP 3D Elec. Hoist and Swinger.
65 ton G.E. Diesel Elec. Locomotive.
45 ton G.E. Diesel Elec. Locomotive.
25 ton American Stiffleg Derrick.
500 CFM G-D Portable Diesel Compr.
750 CFM G-D Compr. 125 HP Motor.
130 HP Christian 2D Diesel Hoist.
60 ton Clyde Elec. Revolver or Gantry.

MISSISSIPPI VALLEY EQUIPMENT CO.
509 Locust St. St. Louis 1, Mo.

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3—Whitcomb—15 Ton—36" Ga.—Diesel.
2—Plymouth 8 Ton Gas. Std. Ga.
1—Whitcomb 30 Ton Std. Ga. Diesel.
1—G.E. 80 Ton Diesel-Elec.
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Brookville 8 Ton 36" Ga. Gas.
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**3—HOPPER CARS—50 TON.
EXCELLENT. STD. GA.**

2—Conway Mod. 75 Muckers. #256 & #305. Bargains.
Southwark 500 Ton Hydraulic Press—High-Speed—Like New.
Southwark 100 Ton Hydraulic Press.
Mundy 2-Drum Elec. Hoist—300 H.P. Like New.
Bridgeford Axle Lathe. 10—50 Ton Hopper Cars.
"Burro" Model 30 Gas Crane.

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Phone Sagamore 2-7132

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PUMPCRETE

Model 200 Single with 8" Pipe and Fittings. All used less than 30 days. New Guaranty. Will Trade for Shovel, Crane, Tractors or other Modern Equipment.

ANDERSON EQUIPMENT CO.
Box #1737, Pittsburgh 30, Penna.
Phone: LEhigh 1-6020

FOR RENT

1—Brand new Manitowoc 3000B and 1—Bucyrus Erie crane with 2 yd. shovelfronts.

DICK CONSTRUCTION COMPANY
Large, Penna. (Pgh. District) Elizabeth 1290

FOR RENT
monthly on concrete or steel erection

1 P. & H. 655B—Long crawler
90 ft. boom 30 ft. jib
1 P. & H. 255 T. C. 20 ton
70 ft. boom 20 ft. jib

1952 machines—in excellent condition
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1136	Fairbanks Morse	38D	1600	720	250	Fairbanks Morse	37-E	375	360
1100	General Motors	16-278A	1600	720	200	General Motors	8-268A	350	900
750	General Motors	12-567	1080	720	150	Worthington	CC-4	225	450
500	Baldwin	VO-8	750	514	150	Buckeye	80	240	600
500	General Motors	8-278A	750	720	100	Worthington	BB-5	150	600
500	General Motors	8-567	720	720	100	General Motors	3-268A	150	1200
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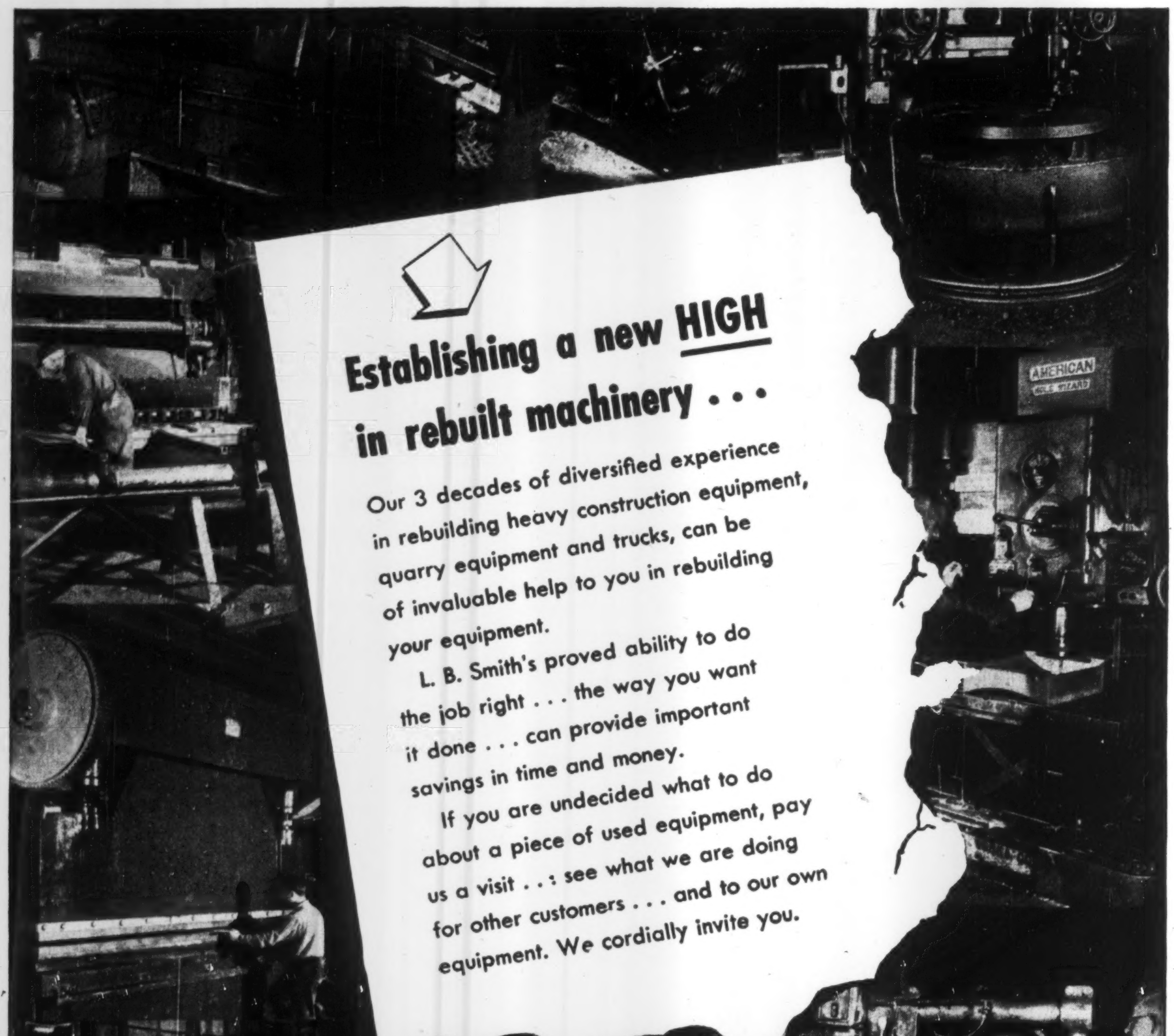

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L. B. SMITH INC.

New and Used Equipment News

Prepared Monthly by Ed Woolford at Camp Hill, Pa.

VOL. 2 **NO. 3**

AIR COMPRESSORS

Gardner-Denver 500 cu. ft. diesel, new condition.
Gardner-Denver 500 cu. ft. diesel, good operating condition.
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3018 Cedarapids roll. Rebuilt.
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60" dia. x 14' long Traylor revolving screen. Rebuilt.
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1½ KW to 125 KW, alternating and direct current gasoline and diesel powered.

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Lorain L-50-I, 1-yd. diesel.
Lorain MC-2 Moto-Crane
Lorain 40 truck crane on Mack 3-axle truck.
Link Belt LS85 diesel combination.
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Lorain 30A, ½-yd. gas combination.

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Lorain 40 Hi-Lift shovel attachment.

P&H 203 shovel attachment.

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¾-yd. Lorain, 40, LBS #6105. 44" cutting width.

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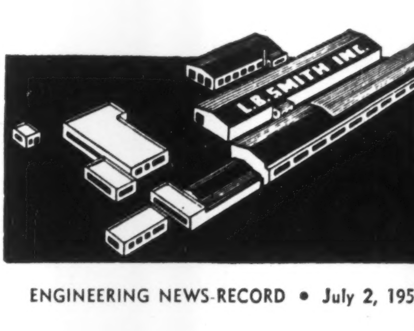
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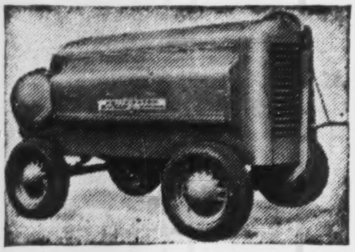

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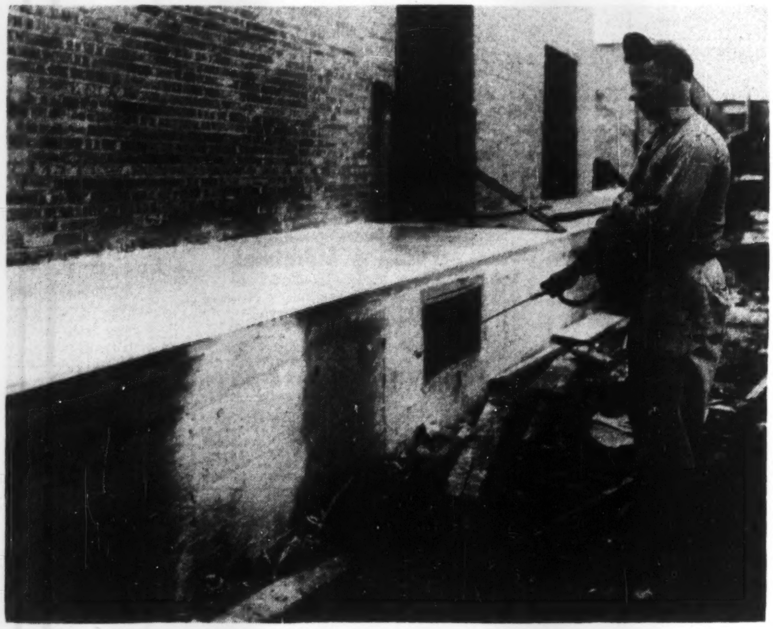


WHITE PIGMENTED curing compound not only reduces surface temperatures but also provides a visual control of coverage.

Two new concrete cures marketed

Among methods used to provide adequate retention of moisture for hydration of concrete, the water cure probably is the oldest. It also is the cheapest where water is plentiful and can be applied by mechanical methods; but where water is scarce, it is necessary to turn to other types of curing methods.

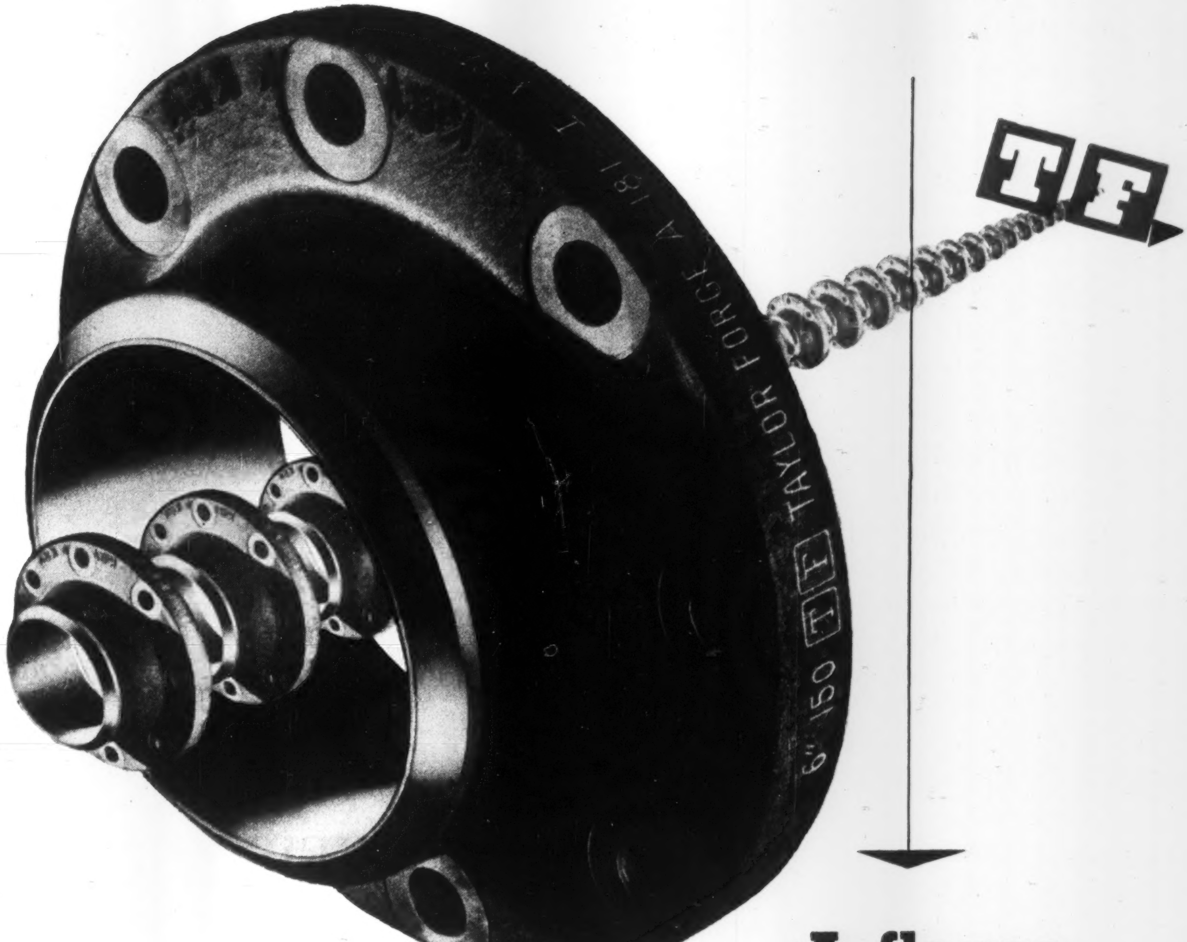
• **Sodium silicate compound**—Demicon curing compound is manufactured by a relative newcomer to the field, Demarest Engineering Co. The compound is composed of 45% sodium silicate by volume plus a penetrating agent, which permits entry of the solution into the outer $\frac{1}{16}$ to $\frac{1}{8}$ in. of the concrete with the result that the compound can cure and harden at the same time. This was brought out by tests conducted by M. Jacangelo, assistant plant engineer of the Hyatt Bearing Div. of General Motors Co., Clark Township, N. J. Using a piece of sharp angle iron, Jacangelo found that the areas treated with Demicon showed increased hardness and resistance to gouging when compared with untreated areas.

Furthermore, if the hardening effected by the curing compound is not sufficient for the user's demands, a liquid floor hardener can be applied after curing. This is not the usual case with resin or wax-based curing compounds. The manufacturer also points out that Demicon uses no inflammable solvents.

Demicon may be applied by unskilled labor equipped with burlap drags. Like other silicate compounds, Demicon is limited to the curing of areas not subject to wetting during the cure. The aqueous nature of the solution prohibits its use where it might inadvertently be washed out.

• **Wax-resin and resin base compounds**—Recent developments have improved the original products considerably. Among the newer entries in this field is the line manufactured by Servicised Products Corp. All of the Servicised compounds have a thixotropic quality—literally "changing to the touch." Liquid before application, the compounds change to a gel when applied to assure adhesion to vertical or sloping surfaces. Further, pooling of the mixture in low spots and inadequately treated high spots are said to be eliminated.

Servicised white pigmented compounds do double duty; they form a protective seal and also reflect heat.



A flange with a background . . .

You are looking at a flange with a history. Taylor Forge made the forged steel flange and in a sense the forged steel flange made Taylor Forge. It was Taylor Forge, back in 1905, who made the first forged steel flanges on a commercial scale . . . and it is Taylor Forge who has guided flange development across the past half century.

Through the first threaded flange form, the bolted Van Stone form, and the perfected welding neck form pictured here, Taylor Forge has undeniably contributed more to flange development than any other organization*.

Taylor Forge Welding Neck Flanges are a part of the WeldELL® line—the line that more than 20 years ago gave industry the first complete line of fittings for pipe welding. The organization that led development is still leading . . . in scope of types, sizes, weights, materials . . . in quality and downright value!

For up-to-the-minute facts see your Taylor Forge Distributor

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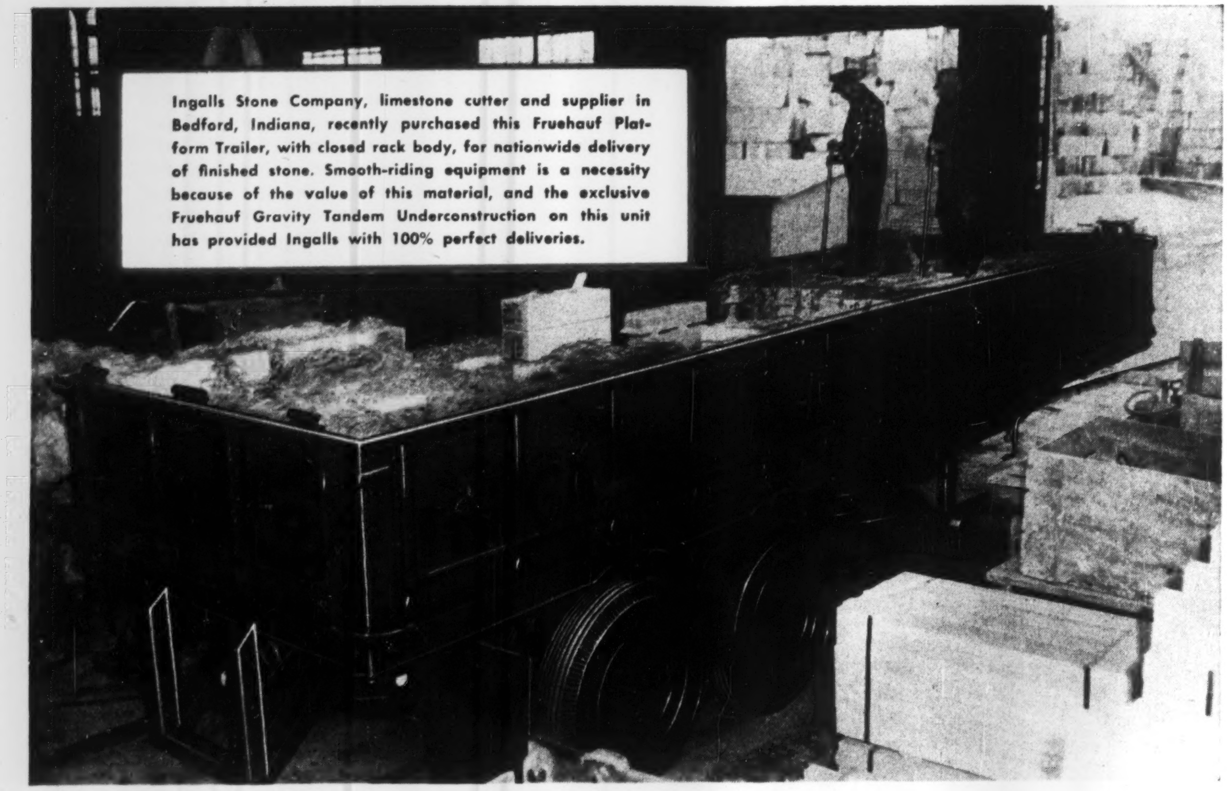
* When pressures rose from the old 150- and 300-pound standards to 400, 600 and finally 900 pounds, it was largely the exhaustive research of Taylor Forge that supplied the formulas for determining stresses in flanges for any given condition of loading. Among many examples: the Taylor-Waters formula, published in 1927, became and still is the basis of recognized practice for flanges in sizes through 24". Again, in 1938 Taylor Forge published the first edition of the now authoritative "Modern Flange Design" based on methods proposed by E. O. Waters, D. B. Rossheim, D. B. Wesstrom and F. S. G. Williams, Taylor Forge Manager of Engineering Standards. (ASME Trans., Apr. 1937)



Ingalls Stone Company, limestone cutter and supplier in Bedford, Indiana, recently purchased this Fruehauf Platform Trailer, with closed rack body, for nationwide delivery of finished stone. Smooth-riding equipment is a necessity because of the value of this material, and the exclusive Fruehauf Gravity Tandem Underconstruction on this unit has provided Ingalls with 100% perfect deliveries.

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This last quality is important under conditions where atmospheric temperatures exceed 80° F and the final setting of the concrete might be jeopardized. Not only is the concrete surface temperature reduced but the pigment provides a visual control of surface coverage. Gray compounds are available for highway curing where glare must be reduced.

A black, asphalt-base curing compound has been designed for use in colder climates where a higher temperature is desired for proper curing.

Clear compounds are made for general architectural and paving uses where pigmentation is not desirable. Where spraying would be wasteful or inadequate, compounds of heavy paint consistency can be used. All of the clear compounds are available with a fugitive dye that disappears shortly after application.

Three other compounds are made by Servicised for precast or tilt-up construction where positive separation of the cast on wall from the concrete pouring base is required.

Although the wax-resin and resin base curing compounds are adequate for all general curing purposes, including exterior work, it is generally accepted that these types by their nature prohibit any further application of liquid floor hardeners.

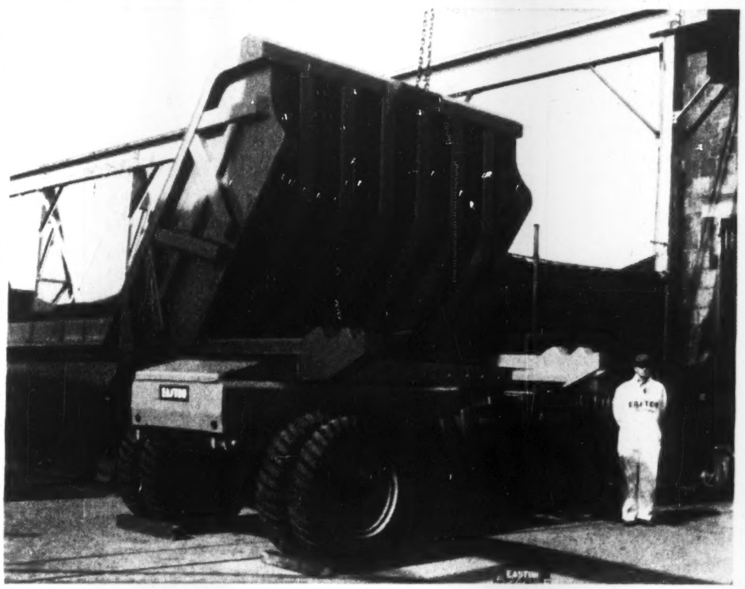
Demicon is made by the DEMAREST ENGINEERING CO., 790 BROAD ST., NEWARK 2, N. J. The Servicised compounds are manufactured by SERVICIZED PRODUCTS CORP., 6051 W. 65TH ST., CHICAGO 38, ILL.

Power increased on vibratory paving tube

A vibratory tube assembly that can be attached to either the front of a finisher or the rear of a spreader consists of two to five vibratory elements, depending on slab width and depth. Each of these vibratory elements embodies two closely parallel tubes on which is mounted a vibratory, submersible motor.

Current to the motors is supplied by a central power plant mounted on the parent equipment and the tube is raised or lowered into the concrete by the finisher or spreader operator.

Advantages claimed for the paving tube are greater compressive strength and impermeability of the hardened concrete using dryer mixes. Further, the paving tube is said to offer uniform compaction without streaking, faster finisher progress and reduction of spreading time where no mechanical spreader is used. This is due to the



SIDE-DUMP PAN TYPE TRAILER—smallest of the Easton line, has a capacity of eight cu yds or ten tons. The body is all-welded ⅜ in. plate with box-section reinforcements and oak floor cushion. To avoid excessive wear on one side the body may be reversed from end to end. The cab protector plate is bolted into position so that it may be switched to the opposite end after reversal. The trailer is equipped with a rubber-mounted fifth wheel, BK vacuum brakes and 10.00 x 20-14 dual lug tires. Easton Car & Construction Co., Easton, Pa.

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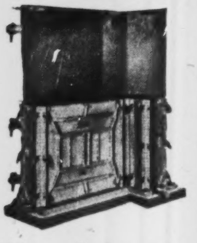

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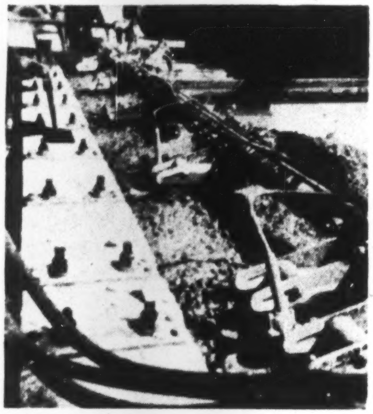


FREQUENCY of paving tube motors may be varied to suit the mix.

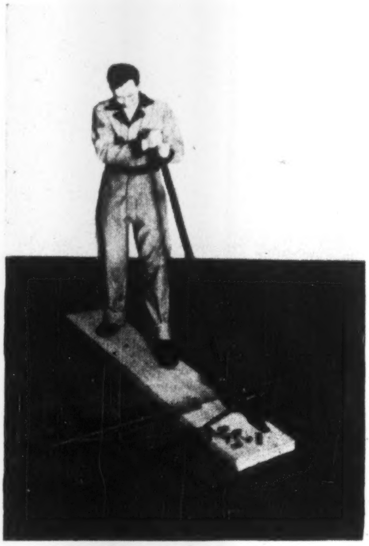
quick plasticization of the concrete.

The paving tube is available with any number of motors up to five and their frequency may be varied to suit the mix. Jackson Vibrators, Inc., Ludington, Mich.

Low-cost shear slices reinforcing rods

A specially adapted shear provides a quick means for cutting steel rods of various kinds and sizes. Capacity of the tool on mild steel rods is $\frac{3}{4}$ in.

The #400 rod cutter consists of a movable shear blade and fixed shearing die, both replaceable. The blade is moved by a geared 48-in. lever that is said to give great power and produce a quick, smooth cut. Shear and handle weigh 42 lbs. Whitney Metal Tool Co., Rockford, Ill.



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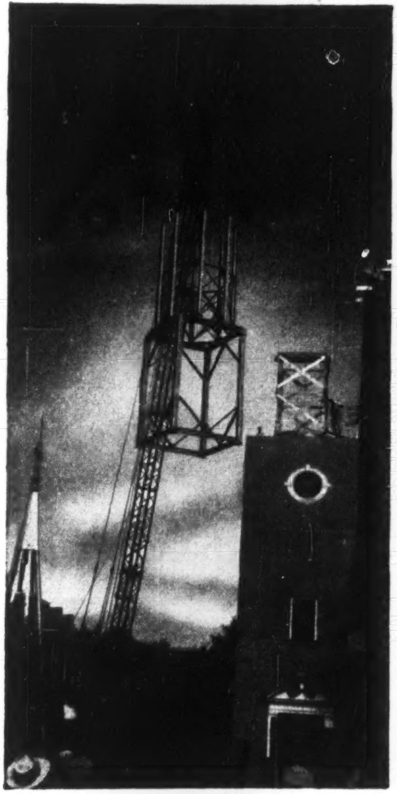
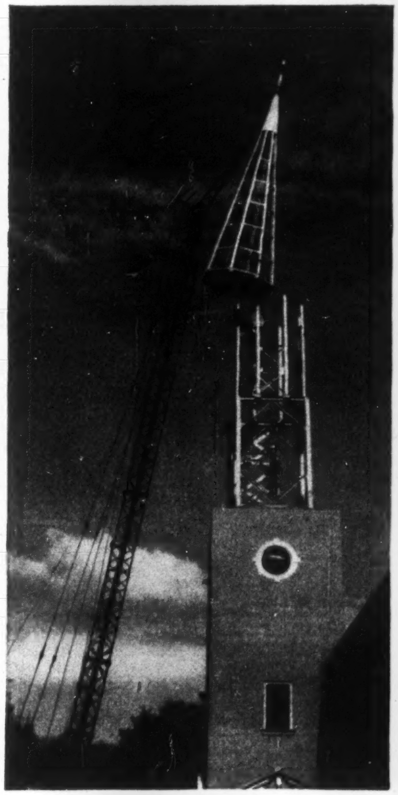
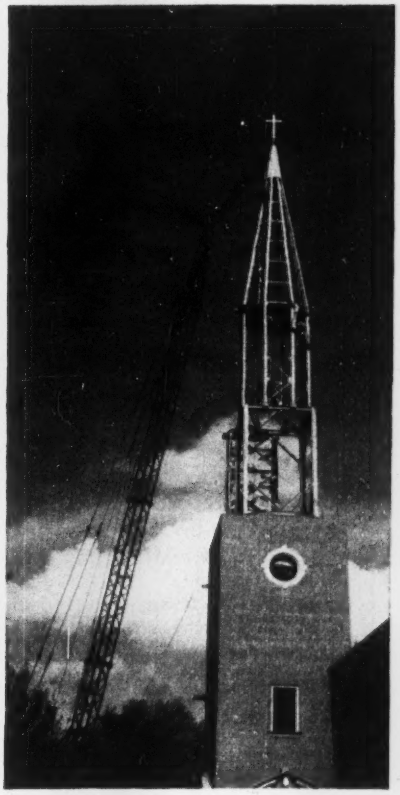


Photos courtesy of Roanoke Times, Roanoke, Va.

Lima 34-T crane lifting 32-foot, 5½-ton rectangular and octagonal shaped section in place on brick base.



Next the 2,800-pound cone is raised to its spot on top of the lower section of the steeple.



Note the switch in direction of the 5-foot cross . . . a last minute change.

A precision job like this one calls for the smooth, sure operation that their Lima 34-T crane gives Hawkins and Cox, Roanoke steel erectors. The seven ton steeple for the new First Methodist Church in Salem, Va., had to be lifted to 120-feet above ground. This was done effortlessly by the reliable Lima Paymaster Truck Crane.

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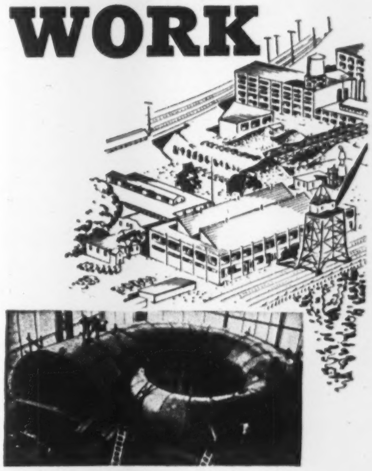

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EDITORIALS

Long feast for lawyers

A LITTLE DAM that was destroyed last fall may yet be the center of an international dispute in which engineers will play a part. Known as Gut Dam, it was built about 1903 by the Canadian government between two islands on the Canadian side of the St. Lawrence River—where that stream flows out of Lake Ontario—to divert a larger flow of water into the channel used by ships moving to and from the Canadian canal. In consenting to construction of the dam, the U.S. government stipulated that if it caused the level of Lake Ontario to be raised so high as to result in damage to property in New York State, the Canadian government would pay the damages agreed upon between that government and the U.S. citizens whose property was damaged or "as may be set by a proper court of the United States."

Off and on since 1903, whenever high water in Lake Ontario did damage to property in New York, blame for the high water was placed on the dam, but government engineers always disputed the claims and no serious attempts were made to collect damages. But last year, when the abnormally high water in all the Great Lakes did a large amount of damage, involving many more property owners, a new move was started to compel the Canadian government to compensate property owners on the New York side of Lake Ontario.

Reading the reports of engineers who made a study of causes of high water in the Great Lakes last year for the Army Engineers leads to the conclusion that only lawyers are going to benefit from these damage suits. Lawyers appear to have led the property owners to believe that the quoted clause from the consent agreements means that Canada will have to pay damages set by local New York courts. But even if the Canadian government accepts that clause as depriving it of the usual immunity of a government to court action in a foreign country, it may be expected to decide that the "proper court" in this country is the U. S. Supreme Court, not county or state courts in New York.

Local courts may give weight to horseback opinions that Gut Dam caused damage to property along Lake Ontario, but the Supreme Court is more apt to take account of what the engineers said. And they said that Gut Dam could not have raised the level of Lake Ontario more than a few inches. They noted further that there had been a rise in levels of all the Great Lakes, which they concluded was due to abnormally high rainfall. That conclusion would have to be convincingly disproved before the Supreme Court would rule that the Canadian government must pay damage to property owners in New York. The dam has been out some months and no such evidence is in sight.

Interstate accord salvaged

IT IS HEARTENING to be able to report that there has been a meeting of the minds on the controversial Delaware River water question (ENR June 25, p27). Full agreement on a long-range plan has not been reached; the matter of water releases and diversions will remain under jurisdiction of the U. S. Supreme Court. But it is still encouraging to note the degree of accord that has been made possible by a long, but successful series of conferences.

Early this year, when a committee advising Pennsylvania's Governor recommended rejection of a 4-state compact proposed by the Interstate Commission on the Delaware River Basin (ENR Feb. 19, p.48 and Feb. 26, p.88), the carefully worked out "Incodel Plan" for eventual full utilization of the basin's waters was stopped cold.

Meanwhile, moved by indications that Pennsylvania was not going to approve the Incodel Plan, New York City had petitioned the Supreme Court for authority to divert more water from the Delaware to meet anticipated needs, and the court had named Kurt F. Panzer, an attorney from Indianapolis, as a master to study the evidence and make recommendations on it.

Apparently Mr. Panzer is a diplomat. He saw that more could be accomplished by agreement than by edict. So he sought a basis on which Pennsylvania and New Jersey—the two other states most directly interested in how Delaware River water is used—might agree to let New York have the additional water it so badly needs. His success is now a matter of record, and much credit should be accorded the representatives of Pennsylvania and New Jersey for their sympathetic and statesmanlike actions in the matter.

The result will be a completely new and better water release formula for the New York City reservoirs, a permissible downstream diversion by New Jersey, and a free hand for Pennsylvania to go to the Delaware for water when it is needed.

These distinct advantages are not agreed upon in any official compact form, but merely stem from the conciliatory evidence that will be submitted to the Supreme Court to clear the way for approval of New York's current application for more water.

We suggest that the Supreme Court consider assigning the same master to the controversial Arizona-California suit over Colorado River water.

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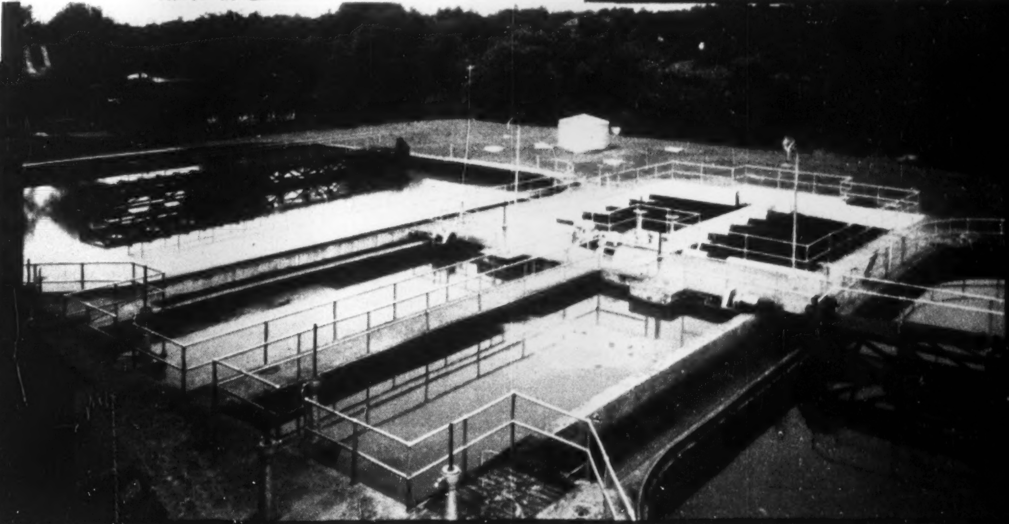

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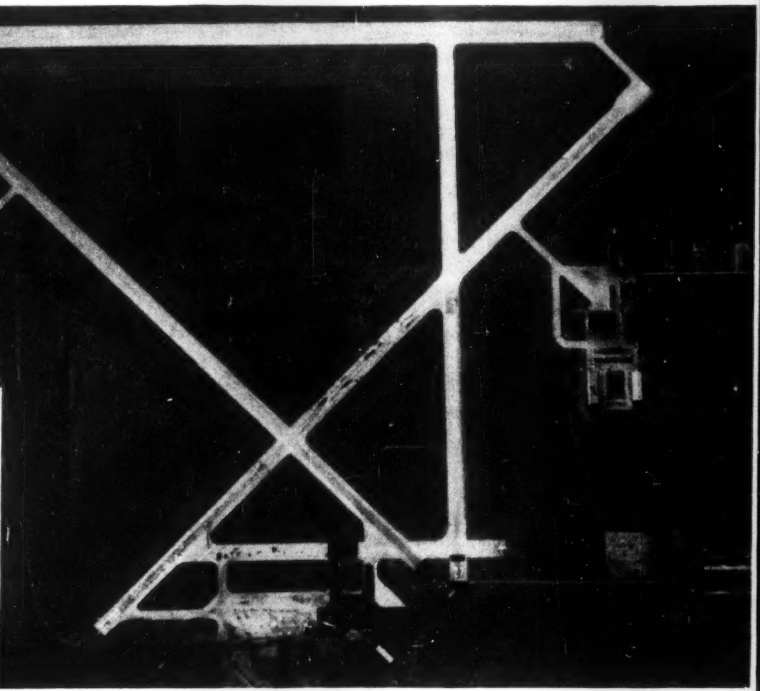

Laying Hot-mix Texaco Asphaltic Concrete on runways of Weir-Cook Airport. The new pavement was laid in two or three courses, having a total thickness of four to six inches. Grady Brothers of Indianapolis were the contractors.

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